

DOI: 10.2478/cjf-2019-0016

CODEN RIBAEG ISSN 1330-061X (print)
1848-0586 (online)

A REVIEW OF EXTANT CROATIAN FRESHWATER FISH AND LAMPREYS

Annotated list and distribution

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ARTICLE INFO

Received: 22 July 2019
Accepted: 26 September 2019

Keywords:

Danube drainage
Adriatic basin
Endemism
Introductions
Translocations

How to Cite

ABSTRACT

A checklist of the freshwater fish fauna of Croatia is presented for the first time. It is based on 1360 publications of historical and recent data in the literature. According to the literature review, there were 137 fish species in 30 families and 75 genera recorded in Croatia. The checklist is systematically arranged and provides distributional data of the freshwater fish fauna as well as whether the species is endemic, introduced or translocated.

Čaleta, M., Marčić, Z., Buj, I., Zanella, D., Mustafić, P., Duplić, A., Horvatić, S. (2019): A review of extant Croatian freshwater fish and lampreys - Annotated list and distribution. *Croatian Journal of Fisheries*, 77, 137-234. DOI: 10.2478/cjf-2019-0016.

INTRODUCTION

The Republic of Croatia is a small country with a land area of 56,594 km² at the crossroads of several European biogeographical regions: Continental, Alpine, Mediterranean and, on its north-east, fragments of the Panonian biogeographical region are present (EEA, 2002). Croatia's geographical position includes two river basins (Adriatic Sea and Black Sea basins) with an interesting geological history that has resulted in one of the most diverse freshwater ichthyofaunas in Europe. With 137 species that are strictly freshwater or occasionally use freshwater, Croatia has among the highest species richness in Europe (Mrakovčić et al., 2006). In particular,

the Dinaric karst region of Croatia (Banarescu, 2004; Smith and Darwall, 2006; Oikonomou et al., 2014) harbours numerous endemic species that are found only in Croatia, while some are also found in neighbouring Bosnia and Herzegovina (Čaleta et al., 2015). Despite the long tradition of ichthyology in these parts through the 19th and 20th century (most important researchers were Johann Jakob Heckel, Rudolf Kner, Franz Steindachner, Luka Trgovčević, Mijo Kišpatić, Josipa Plančić, Tihomir Vuković, Dobrila Habeković, Milorad Mrakovčić i Tomislav Treer), in the 21st century, new species are still being discovered and described (Kovačić, 2005; Freyhof and Stelbrink, 2007; Mustafić et al., 2008; Miller, 2009; Bogutskaya and Zupančić, 2010; Buj et al., 2010; Marčić et

al., 2011; Bogutskaya et al., 2012; Tutman et al., 2017). To date, the only comprehensive list of the freshwater fishes of Croatia was compiled within the freshwater fish fauna of Yugoslavia (Taler, 1953; Vuković and Ivanović, 1971), which ceased to exist as a state in 1991, breaking up into several sovereign states lying in different biogeographical regions. Despite more than a century of ichthyological research, no checklist has ever been compiled of the Croatian freshwater ichthyofauna. Previous publications about the freshwater fishes of Croatia were aimed at threatened (Mrakovčić et al., 2006) or endemic (Čaleta et al., 2015) fishes. Furthermore, to date, the literature data on the freshwater fish of Croatia have not been comprehensively collected, analysed and published.

The objective of this review article was to collect and analyse all the available literature data on the freshwater fish of Croatia, and to draft an annotated checklist of the species currently found in Croatia.

MATERIAL AND METHODS

This is the first annotated checklist of the freshwater fish species of Croatia, which includes a compilation of the available literature for Croatia. The bibliography includes scientific papers, professional papers, doctoral dissertations, master theses, books, monographs, chapters in books and technical reports. Grey literature like unpublished reports, professional papers, diploma theses and government documents were not analyzed

for the purposes of this checklist. In addition to the exclusively freshwater species, data are also provided on euryhaline species that inhabit brackish and transitional waters (*Aphanius fasciatus*, *Alosa fallax*, *Platichthys flesus*, *Dicentrarchus labrax*, *Sparus aurata*, Gobiids and Mugilids) and migratory fish species (*Anguilla anguilla*, *Petromyzon marinus* and Acipenserids). In the text of article were used scientific species names while in the species list were listed valid English names (Froese and Pauly, 2019), authority and Croatian names. The list was compiled on the basis of the latest taxonomic classifications of orders, families, genera and species (Stout et al., 2016; Eschmeyer et al., 2018a; Eschmeyer et al., 2018b; Schonhuth et al., 2018; Tan and Armbruster, 2018). Within each family, the genera are listed in alphabetical order. The checklist includes a distribution range for each species, and data as to whether it is an endemic, introduced or translocated species. The list also includes species that are considered regionally extinct (EX in the list) and unsuccessfully introduced species (UI in the list).

The border between the Danube drainage and the Adriatic Sea basin passes through the Lika area, which is located in the Alpine biogeographic region (Fig 1). Except the rivers, some karst fields also belong to different river drainages/basins. Thus, the Danube drainage includes the following fields: Lug, Jasenačko, Drežničko, Stajničko (Mrežnica River drainage) and Krbavsko (Una River Drainage); which are inhabited by the endemic species of the genus *Telestes* and *Delminichthys*.



Fig 1. Map of Croatia with two drainages (basins) and major river courses (dashed line represents the basin boundary)

RESULTS AND DISCUSSION

Croatian ichthyofauna bibliography

For the purposes of checklist, available literature data on the freshwater fishes of Croatia were collected. This included 1360 publications in the period since 1771, and represents the most comprehensive Croatian ichthyofauna bibliography.

The number of literature reports varies largely depending on the historical period. There are only 5 publications from the 18th century, and 153 in the 19th century. A total of 775 publications date back to the 20th century, while in the first 19 years of the 21st century, there have been 424 publications. A review of the number of literature reports by species shows that the most frequently mentioned are those common and recognisable species used in human nutrition, such as *Salmo trutta*, *Cyprinus carpio*, *Anguilla anguilla*, *Esox lucius* and *Silurus glanis*. A total of 25 fish species are mentioned in more than 100 literature reports (in checklist (Appendix 1) species no. 5, 6, 22, 25, 26, 27, 28, 34, 36, 57, 61, 64, 66, 82, 86, 89, 93, 94, 98, 99, 101, 126, 124, 131, 132). However, there are species for which there are very few literature reports, with six species mentioned in fewer than 10 publications (in checklist (Appendix 1) species no. 17, 30, 39, 58, 103, 106). These are mostly species that have been recently described, discovered or whose taxonomic status has only recently been resolved, and therefore have not been discussed in the literature.

Diversity of the Croatian ichthyofauna

Based on the collected data, the freshwater ichthyofauna of Croatia currently totals 137 species (Table 1; Appendix 1), for which literature records are provided. These are species that are native, endemic and successfully introduced. The freshwater ichthyofauna of Croatia can be classified into two classes, 16 orders, 30 families and 75 genera. The greatest diversity is found within the order Cypriniformes (78 species, 56.9%), followed by the orders Perciformes (13 species, 9.5%), Gobiiformes and Salmoniformes (11 species, 8.0%) (Table 1). At the family level, the highest species richness is found amongst the Leuciscidae (48 species, 35.0%), Gobiidae and Salmonidae (11 species, 8.0%), Cobitidae (10 species, 7.3%) and Percidae and Cyprinidae (8 species, 5.8%). All other families are represented by six or fewer species (Table 1).

Several explanations have been posed for the exceptionally high ichthyodiversity in this relatively small area. First, Croatian freshwaters are divided into two major drainage basins and their rivers and lakes have different geographical, hydrological and ecological features. Most of the rivers belonging to Black Sea Basin (also called the Danube drainage system, therefore hereinafter:

Danube drainage) are long, with many tributaries and many are interconnected. On the other hand, the rivers of the Adriatic Sea Basin (hereinafter: Adriatic Basin) are much shorter and isolated from each other, with few or no tributaries, thus spurring allopatric speciation and resulting in very high species richness and high degree of endemism (Marčić et al., 2011; Buj et al., 2014; Buj et al., 2015; Čaleta et al., 2015; Buj et al., 2017; Buj et al., 2019 *in press*). Moreover, 50 % of the Croatian territory is covered by karst, which is a geologic and geographic feature that favoured development of diverse, often isolated water habitats. As a specific feature of this area, presence of the karst fields (known as 'polje') can be mentioned. Those are karst relief forms where surface flows sink underground in contact with limestone. Isolated, unique habitats with specific hydrological conditions are often inhabited by numerous endemic and endangered species. The second important reason causing the origin of a rich and diverse fish community lies in the complex geological history of the region, which included various vicariant events and periods of favourable conditions, promoting diversification and unconstrained evolutionary history of species and genera. This situation is evident in the recently described evolutionary history of the genus *Telestes* (Buj et al., 2017), and spined loaches of the genus *Cobitis* (Buj et al., 2015), though it is likely also true for other freshwater fishes whose evolutionary history is yet to be revealed. Moreover, the Dinaric karst region in Croatia seems to harbour ancient populations of certain freshwater species (*Gasterosteus*) and genera (e.g. *Telestes*, *Delminichthys*, *Phoxinellus*), and represents the site from where colonization of a wider area begun, whilst still maintaining reservoirs of ancient genetic diversity (Buj et al., 2017; Buj et al., 2019 *in press*).

In addition to the extraordinary high species diversity, there are natural hybrid biotypes that originated through the hybridization of two species in geological periods when temporary connections were formed between rivers. Such past geologic hybridizations left traces in the recent genetic composition of several populations, whose genomes are comprised of alleles belonging to two or more species. Hybrid biotypes of *C. elongatoides* (all female triploids) have been reported from the Danube River drainage in Croatia (Buj et al., 2008), as well as introgressions in some populations of *S. obtusirostris* (Sušnik et al., 2007; Razpet et al., 2007). Furthermore, recent investigations (unpublished data) have revealed natural interspecific and even intergeneric hybrids in certain *Squalius* populations Buj et al. 2019 *in press*).

A total of 49 species of freshwater fish in Croatia are endemic species. However, the Danube drainage is inhabited by 9 endemic species (*Eudontomyzon vladkovi*, *Cobitis elongata*, *Gobio obtusirostris*, *R. uranoscopus*, *Romanogobio vladkovi*, *Alburnus sava*, *Rutilus virgo*, *Hucho hucho*, *Gymnocephalus schraetser*) which have wider distribution (endemic to the Danube basin).

Table 1. Taxonomic distribution, species number, number of alien and number of endemic species of freshwater fishes of Croatia (*without Danube drainage endemics)

<i>ORDER</i>	<i>FAMILY</i>	<i>GENERA</i>	<i>SPECIES</i>	<i>% species</i>	<i>ALIEN</i>	<i>TRUE ENDEMIC*</i>
PETROMYZONTIFORMES	PETROMYZONTIDAE	3	3	2,19%	-	1
ACIPENSERIFORMES	ACIPENSERIDAE	1	2	1,46%	-	-
ANGUILLIFORMES	ANGUILLIDAE	1	1	0,73%	-	-
CLUPEIFORMES	CLUPEIDAE	1	1	0,73%	-	-
	COBITIDAE	3	10	7,30%	-	4
	NEMACHEILIDAE	1	1	0,73%	-	-
	ACHEILOGNATHIDAE	1	1	0,73%	-	-
CYPRINIFORMES	CYPRINIDAE	4	8	5,84%	2	2
	GOBIONIDAE	3	6	4,38%	1	1
	LEUCISCIDAE	17	48	35,04%	-	21
	TINCIDAE	1	1	0,73%	-	-
	XENOCYPRIDIDAE	2	3	2,19%	3	-
SILURIFORMES	SILURIDAE	1	1	0,73%	-	-
	ICTALURIDAE	1	2	1,46%	2	-
ESOCIFORMES	ESOCIDAE	1	1	0,73%	-	-
	UMBRIDAE	1	1	0,73%	-	-
SALMONIFORMES	SALMONIDAE	6	11	8,03%	4	1
GADIFORMES	LOTIDAE	1	1	0,73%	-	-
GOBIIFORMES	GOBIIDAE	8	11	8,03%	4	6
PLEURONECTIFORMES	PLEURONECTIDAE	1	1	0,73%	-	-
CYPRINODONTIFORMES	CYPRINODONTIDAE	1	1	0,73%	-	-
	POECILIIDAE	1	1	0,73%	1	-
MUGILIFORMES	MUGILIDAE	4	6	4,38%	-	-
BLENNIFORMES	BLENNIIDAE	1	1	0,73%	-	-
SCORPAENIFORMES	COTTIDAE	1	1	0,73%	-	-
	MORONIDAE	1	1	0,73%	-	-
	CENTRARCHIDAE	2	2	1,46%	2	-
PERCIFORMES	PERCIDAE	4	8	5,84%	-	-
	SPARIDAE	1	1	0,73%	-	-
	GASTEROSTEIDAE	1	1	0,73%	-	-
16	30	75	137	100%	19	36

The remaining 40 species (29.2% of the total ichthyofauna) are true endemic species (narrower distribution) to Croatia and/or to Adriatic basin (Table 1). *Gobio obtusirostris* inhabits both drainages/basins because it has been translocated to the Adriatic basin. The true endemic species belong to seven families, with 21 endemic species included in the family Leuciscidae, or 15.3% of all recorded species (Čaleta et al., 2015). Among the true endemics there are also 15 species (10.9% of the total ichthyofauna) exclusively inhabiting the waters of Croatia (*Cobitis dalmatina*, *C. jadrovaensis*, *Delminichthys jadrovaensis*, *D. krbavensis*, *Phoxinellus dalmaticus*, *Squalius illyricus*, *S. zrmanjae*, *Telestes croaticus*, *T. fontinalis*, *T. karsticus*, *T. miloradi*, *T. polylepis*, *T. turskyi*, *T. ukliva* and *Knipowitschia mrakovcici*) (stenoendemic species). Considering that the historical literature data were consulted, the checklist also includes (though not enumerated) those species that formerly inhabited the freshwaters of Croatia, and which are today considered regionally extinct (genus *Acipenser* and *Huso* and the *Alosa immaculata*) (Table 2).

To date, according to literature data, a total of 32 freshwater fish species have been introduced to Croatia (Piria et al., 2018; Pofuk et al., 2017.; personal data). The freshwaters of Croatia have 19 alien species (naturalised and acclimatized), introduced from other geographic areas and continents (Table 1). Four of them have been introduced into the Danube drainage, and two into the Adriatic Basin. The remaining 13 species have been introduced into both basins (Piria et al., 2018). The checklist of Croatian freshwater fish species lists (though not enumerated) exotic (alien) (unsuccessfully introduced) species (total of

13) which were introduced historically or escaped (from aquaculture or aquaria) and were reported in the waters of Croatia but failed to create self-sustaining populations (Table 2). In addition to the introduced species, there are also species that are native to the Republic of Croatia, but have been translocated between the basins. There are 17 species, native to the Danube drainage, known to have been introduced (naturalised and acclimatized) into the Adriatic Basin (Pofuk et al., 2017.; personal data). The only recorded species translocated from Adriatic Basin to the Danube drainage is *Gasterosteus aculeatus*.

Geographical distribution of the freshwater fish diversity (hot spots)

In the Danube drainage in Croatia (total area 35 132 km²) 81 freshwater fish species are present, of which 64 species are native and the remaining 17 are alien. In the Adriatic Basin (total area 21 405 km²) were recorded 90 fish species of which 60 species are native while 30 species are introduced from Danube drainage (17 species) or alien (15 species). Denotation of the waters of the Adriatic Basin in Croatia as the ichthyodiversity 'hot spot' is clearly argued by the exceptionally high number of fish species distributed there, and particularly high number of endemic fishes (36 species) (Table 3). On the other hand, rivers of the Danube drainage harbour a greater number of species, which is expected, due to their greater length and interconnections. Rivers with the highest number of species in Croatia are Drava, Sava, Kupa, Mura, Una

Table 2. Taxonomic distribution, number of extinct (EX) and number of unsuccessfully introduced (UI) species in Croatia

ORDER	FAMILY	GENERA	SPECIES	EX	UI
ACIPENSERIFORMES	ACIPENSERIDAE	2	6	5	1
	POLYODONTIDAE	1	1	-	1
CHARACIFORMES	SERRASALMIDAE	1	1	-	1
CICHLIFORMES	CICHLIDAE	1	1	-	1
CLUPEIFORMES	CLUPEIDAE	1	1	1	-
GOBIIFORMES	ODONTOBUTIDAE	1	1	-	1
PERCIFORMES	MORONIDAE	1	1	-	1
SALMONIFORMES	SALMONIDAE	3	4	-	4
	MOCHOKIDAE	1	1	-	1
SILURIFORMES	ICTALURIDAE	1	1	-	1
	CLARIIDAE	1	1	-	1
8	10	14	19	6	13

Table 3. Distribution of fish taxa in Croatia by drainages (*without Danube drainage endemics; in brackets total number with species of brackish and transitional waters; bold – Danube drainage, italic – Adriatic Basin)

Drainage	Orders	Families	Genera	Species	Introduced	True endemic*
Mura	9	20	44	57	10	
Drava	11	22	51	70	15	
Bednja	8	16	34	40	6	
Danube	9	18	41	55	13	
Sava	10	20	49	68	13	
Orljava	7	15	32	38	6	
Una	10	18	43	57	8	2
Ilova	7	16	36	44	9	
Česma	7	16	35	43	9	
Lonja	7	15	30	36	5	
Krapina	8	16	33	39	5	
Sutla	8	16	30	38	4	
Kupa	10	19	45	59	12	
Dobra	7	15	32	38	5	
Mrežnica	7	15	31	37	5	2
Korana	8	17	34	41	8	
<i>Dragonja</i>	<i>5</i>	<i>7</i>	<i>10</i>	<i>5 (12)</i>	<i>1</i>	<i>1</i>
<i>Mirna</i>	<i>10</i>	<i>17</i>	<i>28</i>	<i>19 (31)</i>	<i>10</i>	<i>6</i>
<i>Raša</i>	<i>8</i>	<i>11</i>	<i>17</i>	<i>9 (19)</i>	<i>3</i>	<i>4</i>
<i>Rječina</i>	<i>5</i>	<i>6</i>	<i>8</i>	<i>3 (10)</i>		
<i>Gacka</i>	<i>4</i>	<i>7</i>	<i>9</i>	<i>9</i>	<i>8</i>	
<i>Lika</i>	<i>5</i>	<i>9</i>	<i>17</i>	<i>17</i>	<i>12</i>	<i>3</i>
<i>Zrmanja</i>	<i>10</i>	<i>15</i>	<i>23</i>	<i>15 (25)</i>	<i>5</i>	<i>4</i>
<i>Krka</i>	<i>11</i>	<i>18</i>	<i>30</i>	<i>22 (33)</i>	<i>11</i>	<i>9</i>
<i>Cetina</i>	<i>11</i>	<i>18</i>	<i>29</i>	<i>22 (33)</i>	<i>12</i>	<i>8</i>
<i>Vrlička</i>	<i>4</i>	<i>7</i>	<i>10</i>	<i>10</i>	<i>5</i>	<i>5</i>
<i>Neretva</i>	<i>13</i>	<i>20</i>	<i>36</i>	<i>31 (43)</i>	<i>12</i>	<i>14</i>
<i>Ljuta</i>	<i>2</i>	<i>2</i>	<i>5</i>	<i>5</i>	<i>1</i>	<i>2</i>

and Danube, all of them contained inside the Danube drainage. Rivers with the highest number of species inside the Adriatic Basin are Neretva, Krka, Cetina and Mirna (Figure 1). Some of those species (particularly in

the Mirna River) are also brackish fish species (Mugilids) that regularly enter river mouths and the lower stretches of rivers.

Implications for future study

The checklist presented here clearly displays the exceptional diversity of the Croatian ichthyofauna. Research conducted in recent decades has revealed the great diversity of Croatian freshwater fishes at several levels: species diversity, intraspecific genetic diversity, natural hybrid richness and functional diversity of freshwater ecosystems (Buj et al., 2008; Buj et al., 2014; Buj et al., 2018; Buj et al., 2019 in press). On the other hand, drawbacks have been recognised with regard to the current knowledge and areas where information is scarce. There are still many outstanding questions, which these can serve as guidelines for future study. The salmonids are an example of an important case where the taxonomy is yet to be resolved (Kottelat and Freyhof 2007). The unresolved taxonomy of the genus *Salmo* is a problem not only for Croatia but is characteristic for all of Europe (Kottelat and Freyhof 2007). A debate is still ongoing as to whether there is a single widespread trout species with pronounced intraspecific structuring (at least five lineages) that inhabits most European waters, or whether these are several different species, and no final answer has yet been reached (Bernatchez et al., 1992; Kottelat and Freyhof, 2007; Schenekar et al., 2014). Moreover, the taxonomic status and validity of several species described as endemic to Adriatic Basin (e.g. *Salmo visovacensis*, *S. dentex*) is questionable (see Kottelat and Freyhof, 2007). Due to their importance in freshwater ecosystems, but also in fisheries, determining the exact taxonomic status of trout populations in Croatia, as a prerequisite for their adequate conservation, should be the focus of further scientific study. The possibility of the existence of cryptic diversity has already been reported for genus *Phoxinus* (Palandačić et al., 2015). The possible discovery of an endemic species would be very important in the conservation sense. A specific taxonomic problem is also seen in the family Petromyzontidae (Tutman et al., 2017) since its taxonomy is unsettled. Comprehensive taxonomic study, including detailed analysis of the morphology, and also multilocus phylogenetic research is required to resolve this problem. Moreover, inclusion of both morphological characters and phylogenetic relationships in taxonomical studies is a necessary prerequisite to resolve taxonomic dilemmas, instead of the exclusive reliance on morphological characters which in the past has led to many incorrect taxonomic conclusions.

In addition to resolving taxonomic uncertainties, an important direction for future research would be to confirm the native distribution ranges for several species (e.g. Petromyzontidae species, *Alosa fallax*, *Chondrostoma phoxinus*, *Rutilus* spp., *Romanogobio* spp., *Misgurnus fossilis*). Due to contradictory reports by earlier authors (Langhoffer, 1904; Trgovčević, 1932; Rössler, 1931; Taler, 1953; Basioli, 1957a; Leiner & Popović, 1984; Leiner, 1985), it is often not clear whether a report of a certain

species at a locality outside its common distribution range is due to misidentification (*Barbatula barbatula* in the Lika River, *Barbus barbus* in the Neretva River, *Cobitis taenia* in the Cetina River, *Leuciscus souffia* in the Cetina River), or whether it is a case of a rare or locally extinct species, if there are no recent reports (*Rutilus aula* in the Rječina River and in the Vransko Lake, *Scardinius hesperidicus* in the Istria, *Salmo dentex* in the Cetina River). In some cases, it is easy to decide between the two hypotheses, while in others only extensive field studies can enable exclusion of one of the hypotheses.

Finally, future research should also focus on specific populations of well-known species, for which there is a lack of data on their status and they may be locally extinct or present only in very low population densities (e.g. *Salmo obtusirostris* in the Krka River, *Leucapius delineatus* in the Sava River system). Due to growing pressures on freshwater communities, such studies are urgent and should be followed by adequate conservation measures to ensure the future viability and unconstrained evolution of the observed exceptionally rich ichthyodiversity.

Appendix 1. Checklist of Croatian ichthyofauna (numbers before species indicate that species is native, endemic or successfully introduced; UI unsuccessfully introduced; EX=extinct species)

1. CLASS: PETROMYZONTI

1.1. ORDER: PETROMYZONTIFORMES

1.1.1. FAMILY: PETROMYZONTIDAE Bonaparte, 1831

EUDONTOMYZON Regan, 1911

1. *Eudontomyzon vladkovi* Oliva & Zanandrea, 1959

Names under which the taxon was mentioned:

Ammocoetes branchialis Cuvier; *Eudontomyzon danfordi* Regan, 1911; *Eudontomyzon danfordi vladkovi* Oliva & Zanandrea, 1959; *Eudontomyzon mariae* Oliva & Zanandrea, 1959; *Lampetra fluviatilis* Berg, 1931; *Lampetra planeri* (Bloch, 1784); *Petromyzon fluviatilis* Linnaeus, 1758; *Petromyzon planeri* Bloch, 1784

English name: Vladkov's lamprey

Croatian name: dunavska paklara

Range in Croatia: Danube Drainage

Literature: Taube (1777); Heckel and Kner (1858); Jurinac (1880); Jurinac (1881); Jurinac (1882); Mojsisovics (1883); Jurinac (1884); Mojsisovics (1884); Glowacki (1885); Anonymous (1886); Glowacki (1896); Hirc (1897); Čurčić (1910); Hirc (1911); Langhoffer (1915); Vutskits (1918); Zanandrea (1958); Tadić (1959); Oliva and Zanandrea (1959); Zanandrea (1959); Vuković and Ivanović (1971); Klačterka (1979); Delić (1993); Habeković et al. (1997); Kottelat (1997); Lelek (1987); Mrakovčić et al. (1996b); Honsig-Erlenburg et al. (1997); Povž et al. (1998); Holčík and Delić (2000); Majer (2001); Mustafić (2001); Bath

(2003); Delić et al. (2003a); Mustafić (2005); Sallai and Kontos (2005); Kottelat and Freyhof (2007); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Zanella et al. (2008b); Delić et al. (2009); Dumbović et al. (2009); Jelić et al. (2009); Sofradžija (2009); Bučar et al. (2010); Buj (2010c); Perović and Tvrtković (2010); Tvrtković (2010); Jelić et al. (2012); Čaleta et al. (2015); Piria et al. (2016b)

Remarks: endemic to the Danube drainage; literature reports of *Eudontomyzon mariae* are result of misidentification

LAMPETRA Gray, 1851

2. *Lampetra soljani* Tutman, Freyhof, Dulčić, Glamuzina & Geiger, 2017

Names under which the taxon was mentioned: *Eudontomyzon mariae* Oliva & Zanandrea, 1959; *Lampetra fluviatilis* Berg, 1931; *Lampetra planeri* (Bloch, 1784); *Lampetra zanandreae* Vladykov, 1955; *Lethenteron zanandreae* (Vladykov, 1955); *Petromyzon fluviatilis* Linnaeus, 1758

English name: Šoljan's brook lamprey

Croatian name: primorska paklara

Range in Croatia: Adriatic Basin - Neretva and Norin Rivers, Baćinska Lakes and Desne Lake

Literature: Maldini (1938a); Taler (1953a); Vuković and Ivanović (1971); Morović (1976); Sofradžija and Hadžiselimović (1981); Crivelli (1996); Mrakovčić et al. (1996a); Holčík and Mrakovčić (1997); Leiner (1998b); Tvrtković (1998); Mrakovčić et al. (2000a); Tvrtković and Franičević (2002); Zerunian (2004); Tvrtković and Veen (2006); Kottelat and Freyhof (2007); Glamuzina et al. (2010b); Povž (2011); Renaud (2011); Glamuzina et al. (2013); Čaleta et al. (2015); Tutman et al. (2017)

Remarks: endemic to the Neretva River drainage and the Adriatic Basin, reports for the Istria are not confirmed

PETROMYZON Linnaeus, 1758

3. *Petromyzon marinus* Linnaeus, 1758

Names under which the taxon was mentioned: *Petromyzon fluviatilis* Linnaeus, 1758

English name: Sea lamprey

Croatian name: morska paklara

Range in Croatia: Adriatic Basin - Neretva River

Literature: Carrara (1846); Nardo (1847); Heckel and Kner (1858); Kolombatović (1881); Kolombatović (1882); Faber (1883); Katuri (1883); Kolombatović (1886a); Kolombatović (1886b); Kolombatović (1888); Carus (1889-1893); Botteri (1891); Kišpatić (1893); Damin (1900); Kosić (1903); Langhoffer (1904); Katuri (1907); Maldini (1938c); Taler (1953a); Zanandrea (1958); Tadić (1959); Vuković (1963); Morović (1965); Vuković and Ivanović (1971);

Sofradžija and Hadžiselimović (1981); Hardisty (1986); Kottelat (1997); Leiner (1998b); Holčík et al. (2004); Kottelat and Freyhof (2007); Jardas et al. (2008); Kovačić (2008); Tvrtković et al. (2009); Lipej and Dulčić (2010); Mrakovčić and Čaleta (2011); Renaud (2011); Glamuzina et al. (2013)

Remarks: reports for the lower course and mouth of the Cetina River and Istria are not confirmed

2. CLASS: ACTINOPTERI

2.1. ORDER: ACIPENSERIFORMES

2.1.1. FAMILY: ACIPENSERIDAE Bonaparte, 1831

ACIPENSER Linnaeus, 1758

UI1 *Acipenser baerii* Brandt, 1869

English name: Siberian sturgeon

Croatian name: sibirski jesetra

Range in Croatia: Danube drainage - introduced locally

Remarks: non-native species; introduced to the Draganić fish farm for aquaculture purposes without a self-sustaining population

EX1 *Acipenser gueldenstaedtii* Brandt & Ratzeburg, 1833

Names under which the taxon was mentioned: *Acipenser aculeatus* Lovetsky, 1834; *Acipenser guldenstädti colchicus* Marti, 1940

English name: Russian sturgeon

Croatian name: jesetra

Range in Croatia: Danube drainage - Danube, Drava and Sava Rivers

Literature: Fitzinger and Heckel (1836); Bonaparte (1846); Heckel and Kner (1858); Mojsisovics (1883); Mojsisovics (1884); Glowacki (1885); Anonymous (1886); Anonymous (1886); Seeley (1886); Dudan (1893); Kišpatić (1893); Glowacki (1896); Hirc (1897); Mojsisovics (1897); Brusina (1902); Čurčić (1910); Vutskits (1918); Maldini (1935a); Pešić (1955); Sabioncello (1967); Vuković and Ivanović (1971); Klačterka (1979); Mikuska (1979); Sofradžija and Hadžiselimović (1981); Mikuska (1983b); Lelek (1987); Vlasenko et al. (1989); Hensel and Holčík (1997); Jirásek and Fašaić (2000); Bloesch et al. (2006a); Bloesch et al. (2006b); Mrakovčić et al. (2006); Sofradžija (2009); Schmall and Friedrich (2014b); Schmall and Friedrich (2014d)

Remarks: regionally extinct species

EX2 *Acipenser naccarii* Bonaparte, 1836

Names under which the taxon was mentioned: *Acipenser aculeatus* Lovetsky, 1834; *Acipenser heckelii* Brandt & Ratzeburg, 1833; *Acipenser nardoi* Heckel, 1851; *Acipenser nasus* Heckel, 1847

English name: Adriatic sturgeon

Croatian name: jadranska jesetra

Range in Croatia: Adriatic Basin - Neretva and Cetina Rivers

Literature: Bonaparte (1846); Heckel and Kner (1858); Perugia (1881); Seeley (1886); Kolombatović (1894); Brusina (1902); Kosić (1903); Katuri (1903); Langhoffer (1904); Maldini (1936c); Taler (1951b); Taler (1951f); Sabioncello (1967); Vuković and Ivanović (1971); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Tvrtković (1985); Lelek (1987); Tortonese (1989); Crivelli (1996); Jardas (1996); Jardas et al. (2008); Leiner (1998b); Jirásek and Fašaić (2000); Zerunian (2004); Bloesch et al. (2006a); Bloesch et al. (2006b); Mrakovčić et al. (2006); Kottelat and Freyhof (2007); Valić et al. (2008); Tvrtković et al. (2009); Sofradžija (2009); Glamuzina et al. (2010b); Glamuzina et al. (2013); Schmall and Friedrich (2014d); Čaleta et al. (2015); Piria et al. (2016b)

Remarks: regionally extinct species in freshwater habitats

4. *Acipenser nudiiventris* Lovetsky, 1828

Names under which the taxon was mentioned: *Acipenser glaber* Fitzinger, 1836; *Acipenser glaber* Fitzinger, 1836; *Acipenser schypa* Gildenstädt, 1772

English name: Ship sturgeon

Croatian name: sim

Range in Croatia: Danube drainage - Danube, Drava, Mura, Sava, Una, Kupa and Lonja Rivers

Literature: Marsigli (1726); Fitzinger and Heckel (1836); Bonaparte (1846); Heckel and Kner (1858); Sebišanović (1880); Mojsisovics (1883); Frick (1883); Mojsisovics (1884); Glowacki (1885); Anonymous (1886); Seeley (1886); Brusina (1892); Dudan (1893); Kišpatić (1893); Glowacki (1896); Brusina (1902); Langhoffer (1904); RHZZM (1908); Čurčić (1910); Vutskits (1918); Plančić (1923b); Tadić (1932); Trojanović (1934); Maldini (1935a); Fink (1947); Anonymous (1953b); Taler (1953a); Pešić (1955); Berinkey (1966); Sabioncello (1967); Vuković and Ivanović (1971); Mikuska (1979); Sofradžija and Hadžiselimović (1981); Mikuska (1983b); Lelek (1987); Sokolova and Vasil'ev (1989b); Harka (1992); Hensel and Holčík (1997); Jirásek and Fašaić (2000); Sallai and Kontos (2005); Simonović et al. (2005); Bloesch et al. (2006a); Bloesch et al. (2006b); Guti (2006); Lenhardt et al. (2006); Mrakovčić et al. (2006); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Sofradžija (2009); Freyhof (2012); Jelić et al. (2012); Schmall and Friedrich (2014b); Schmall and Friedrich (2014d)

Remarks: over the past 20 years, only a few individuals have been reported, and likely originated from breeding programmes

5. *Acipenser ruthenus* Linnaeus, 1758

Names under which the taxon was mentioned: *Acipenser gmelini* Fitzinger, 1836; *Acipenser pygmaeus* Pallas, 1814; *Acipenser ruthenus* var. *albinea* Brusina, 1902; *Acipenser ruthenus* var. *birostrata* Brusina, 1902; *Acipenser ruthenus* var. *obtusirostris* Brusina, 1902

English name: Sterlet

Croatian name: kečiga

Range in Croatia: Danube drainage - lower rivers course

Literature: Taube (1777); Fitzinger and Heckel (1836); Heckel and Kner (1858); Brusina (1878); Jurinac (1880); Sebišanović (1880); Frick (1883); Mojsisovics (1883); Jurinac (1884); Mojsisovics (1884); Glowacki (1885); Anonymous (1886); Kesterčanek (1886); Seeley (1886); Mojsisovics (1887); Hefele (1889); Mojsisovics (1889); Brusina (1892); Franke (1892); Brusina (1893); Dudan (1893); Kišpatić (1893); Flögel (1894); Glowacki (1896); Hirc (1897); Mojsisovics (1897); Anonymous (1898b); Hawlitschek (1898); Medić (1901b); Ribić (1901); Brusina (1902); Langhoffer (1904); RHZZM (1908); Čurčić (1910); Vutskits (1918); Plančić (1920); Plančić (1923a); Anonymous (1929b); Böhm (1929); Anonymous (1931c); Thaller (1932); Trojanović (1934); Anonymous (1935d); Jedlička (1935); Maldini (1935a); Maldini (1937); Hafner-Lahorski (1948b); Taler (1948b); Hafner-Lahorski (1950c); Plančić (1952d); Plančić (1952e); Pešić (1955); Jagodić (1957); Ristić (1963); Vuković (1963); Hadžić (1964c); Stepanek (1966); Sabioncello (1967); Tóth and Mikuska (1971); Vuković and Ivanović (1971); Munjko (1972); Vrebac (1972); Herga (1968); Klačterka (1979); Mikuska (1979); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Veljović (1982); Mikuska (1983a); Mikuska (1983b); Delić (1984); Mikuska (1984); Vrenk (1984); Tvrtković (1985); Veljović (1985); Lelek (1987); Sokolov and Vasil'ev (1989a); Homen et al. (1991); Harka (1992); Kolar-Dimitrijević (1994); Mrakovčić et al. (1996b); Biber (1997); Hensel and Holčík (1997); Kottelat (1997); Majer (1998); Jirásek and Fašaić (2000); Mustafić (2001); Jakirčević (2005); Mustafić (2005); Sallai and Kontos (2005); Bloesch et al. (2006a); Bloesch et al. (2006b); Lenhardt et al. (2006); Mrakovčić et al. (2006); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Suić et al. (2008); Guti and Gaebale (2009); Sofradžija (2009); Ozimec et al. (2010); Labak (2011); Freyhof (2012); Jelić et al. (2012); Tomljanović et al. (2013b); Schmall and Friedrich (2014c); Schmall and Friedrich (2014d)

EX3 *Acipenser stellatus* Pallas, 1771

Names under which the taxon was mentioned: *Acipenser stellatus danubialis* Brusina, 1902; *Acipenser stellatus illyricus* Brusina, 1902

English name: Stellate sturgeon

Croatian name: pastruga

Range in Croatia: Danube drainage - Danube, Drava and

Sava Rivers

Literature: Heckel and Kner (1858); Perugia (1881); Faber (1883); Frick (1883); Mojsisovics (1883); Mojsisovics (1884); Glowacki (1885); Anonymous (1886); Kolombatović (1886a); Kolombatović (1886b); Mojsisovics (1887); Kolombatović (1888); Mojsisovics (1889); Kišpatić (1893); Kolombatović (1894); Anonymous (1894g); Trois (1896); Glowacki (1896); Medić (1896); Hirc (1897); Mojsisovics (1897); Medić (1898); Horvat (1901); Medić (1901a); Brusina (1902); Katuri (1903); Kosić (1903); Brusina (1907); Kolombatović (1907); Vutskits (1918); Plančić (1923b); Tadić (1931); Tadić (1932); Maldini (1935a); Rotarides (1944); Berg (1948); Taler (1951f); Taler (1953a); Pešić (1955); Ristić (1963); Sabioncello (1967); Vuković and Ivanović (1971); Mikuska (1983a); Mikuska (1983b); Lelek (1987); Shubina et al. (1989); Hensel and Holčík (1997); Kottelat (1997); Jirásek and Fašaić (2000); Bloesch et al. (2006a); Bloesch et al. (2006b); Mrakovčić et al. (2006); Schmall and Friedrich (2014b); Schmall and Friedrich (2014d)

Remarks: regionally extinct species

EX4 *Acipenser sturio* Linnaeus, 1758

English name: Atlantic sturgeon

Croatian name: atlanska jesetra

Range in Croatia: Danube drainage - Danube, Drava and Sava Rivers; Adriatic Basin - Neretva River

Literature: Heckel and Kner (1858); Kolombatović (1881); Perugia (1881); Faber (1883); Kolombatović (1886a); Kolombatović (1886b); Seeley (1886); Kolombatović (1888); Hefe (1889); Kosić (1889); Brusina (1892); Kišpatić (1893); Katuri (1896d); Hawlitschek (1898); Brusina (1902); Katuri (1903); Kosić (1903); Langhoffer (1904); Kolombatović (1907); Katuri (1908); Čurčić (1910); Thaller (1932); Anonymous (1935g); Maldini (1935a); Šoljan (1948); Taler (1951f); Taler (1953a); Basioli (1959); Sabioncello (1967); Vuković and Ivanović (1971); Klišterka (1979); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Tvrtković (1985); Lelek (1987); Holčík et al. (1989); Jardas (1996); Leiner (1998b); Tvrtković (1998); Jirásek and Fašaić (2000); Bloesch et al. (2006a); Bloesch et al. (2006b); Mrakovčić et al. (2006); Kottelat and Freyhof (2007); Kovačić (2008)

Remarks: regionally extinct species; reports for the Ombla River near Dubrovnik are not confirmed

HUSO Brandt & Ratzeburg, 1833

EX5 *Huso huso* (Linnaeus, 1758)

Names under which the taxon was mentioned: *Acipenser huso* Linnaeus, 1758

English name: Beluga

Croatian name: moruna

Range in Croatia: Danube drainage - Danube, Drava, Sava and Kupa Rivers; Adriatic Basin - Neretva River

Literature: Fitzinger and Heckel (1836); Heckel and Kner (1858); Brusina (1878); Perugia (1881); Kesterčane (1886); Seeley (1886); Šoštarić (1888); Hefe (1889); Brusina (1892); Dudan (1893); Kišpatić (1893); Kolombatović (1894); Mojsisovics (1884); Anonymous (1894g); Katuri (1896d); Hirc (1897); Hawlitschek (1898); Steuer (1899); Anonymous (1900a); Brusina (1902); Katuri (1903); Kosić (1903); Langhoffer (1904); Kolombatović (1907); Anonymous (1908a); Čurčić (1910); Vutskits (1918); Thaller (1932); Anonymous (1935g); Maldini (1935a); Taler (1946a); Taler (1951f); Taler (1953a); Pešić (1955); Basioli (1959); Tadić (1966); Sabioncello (1967); Stevanović (1969a); Vuković and Ivanović (1971); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Tvrtković (1985); Lelek (1987); Holčík et al. (1989); Pirogovskii et al. (1989); Jardas (1996); Bloesch et al. (2006a); Bloesch et al. (2006b); Mrakovčić et al. (2006); Kottelat and Freyhof (2007); Kovačić (2008); Schmall and Friedrich (2014a); Schmall and Friedrich (2014d)

Remarks: regionally extinct species; introduced to fish farms for aquaculture purposes (Recirculation Aquaculture Systems)

FAMILY: POLYODONTIDAE Bonaparte, 1835

POLYODON Lacepède, 1797

UI2 *Polyodon spathula* (Walbaum, 1792)

English name: Paddlefish

Croatian name: veslokljunka

Range in Croatia: Danube drainage - Danube River

Literature: Jelčić and Opačak (2013); Piria et al. (2016b); Piria et al. (2018)

Remarks: non-native species in Croatia; only a few individuals recorded in the Danube River, originating from breeding programmes

2.2. ORDER: ANGUILLIFORMES

2.2.1. FAMILY: ANGUILLIDAE Rafinesque, 1810

ANGUILLA Schrank, 1798

6. *Anguilla anguilla* (Linnaeus, 1758)

Names under which the taxon was mentioned: *Anguilla eurystoma* Heckel & Kner, 1858; *Anguilla fluviatilis* Anslin, 1828; *Anguilla vulgaris* Shaw, 1803; *Muraena anguilla* Linnaeus, 1758

English name: European eel

Croatian name: jegulja

Range in Croatia: Danube drainage - sparse reports; Adriatic Basin - widespread

Literature: Fortis (1771); Fortis (1774); Taube (1777); Grisogono (1780); Rödlisch (1811); Lanza (1842); Seljan (1843); Carrara (1846); Heckel and Kner (1858); Canestrini (1866); Šloser (1870); Brusina (1874); Brusina (1878); Kolombatović (1881); Faber (1883); Mojsisovics (1883); Mojsisovics (1884); Kesterčanek (1886); Kolombatović (1886a); Kolombatović (1886b); Seeley (1886); Katurić (1887); Kolombatović (1888); Kosić (1889); Mojsisovics (1889); Sebišanović (1890); Botteri (1891); Bullo (1891); Brusina (1892); Anonymous (1893d); Dudan (1893); Kišpatić (1893); Kolombatović (1893); Anonymous (1894e); Anonymous (1894f); Katurić (1896b); Katurić (1896c); Katurić (1896e); Hirc (1897); Mojsisovics (1897); Petermann (1899); Horvat (1900b); Horvat (1901); Kosić (1903); Langhoffer (1904); Largaiolli (1904); Anonymous (1906a); Anonymous (1907a); Brusina (1907); Katurić (1907); Kolombatović (1907); Anonymous (1908b); Anonymous (1908c); Brusina (1908); RHZZM (1908); Trgovčević (1908); Anonymous (1910b); Langhoffer (1910); Lorini (1910); Car (1911); Anonymous (1913b); Anonymous (1914); Fink (1920); Lorini (1921); Houška (1924); Hirc (1925); Anonymous (1928b); Anonymous (1928e); Hirtz (1928); Parenzan (1928); Wettstein (1928); Anonymous (1931e); Rössler (1931); Šoljan (1931); Thaller (1932); Gandolfi-Hornyold (1933); Tadić (1933); Hafner-Lahorski (1935b); Maldini (1935b); Gridelli (1936); Čurčić (1938); Gandolfi-Hornyold (1938); Maldini (1938b); Dojmi (1939); Anonymous (1947d); Hafner-Lahorski (1947a); Morović (1947); Fijan (1948b); Morović (1948); Plančić (1948); Taler (1948c); Fijan (1949); Plančić (1949); Plančić (1950); Fijan (1951a); Taler (1951g); Basioli (1952); Kovačević (1952); Plančić (1952c); Plančić (1952d); Fijan (1953); Hafner-Lahorski (1953b); Plančić et al. (1953); Plančić (1953a); Plančić (1953b); Škovrlj (1953a); Taler (1953a); Taler (1954a); Anonymous (1955b); Morović (1955); Plančić (1955); Fijan (1956); Grce (1956); Basioli (1957a); Basioli (1957b); Grce (1957); Grubišić (1957); Anonymous (1958b); Basioli (1958a); Basioli (1958b); Porečnik (1958); Basioli (1959); Grce (1959); Basioli (1960); Dubac (1961); Morović (1961); Pešić (1961); Livojević (1962b); Livojević (1962a); Morović (1962); Marčić Brusina (1963); Morović (1963); Vuković (1963); Anonymous (1964); Morović (1964b); Morović (1964a); Sabioncello et al. (1964); Anonymous (1965c); Morović (1966); Stepanek (1966); Anonymous (1967); Habeković (1967); Morović (1967); Sabioncello (1967); Stevanović (1969b); Giunio (1970); Morović (1970); Basioli (1971); Vuković and Ivanović (1971); Kolaković (1972); Morović (1972); Morović (1976); Morović (1978); Klačterka (1979); Mikuska (1979); Žikić and Bertoša (1980); Bojčić et al. (1982); Veljović (1982); Mikuska (1983a); Mikuska (1983b); Ocvirk (1984); Popović et al. (1984); Treer et al. (1984); Leiner (1985); Ocvirk (1985); Tvrtković (1985); Bojčić (1987); Lelek (1987); Mišetić et al. (1989); Treer (1989); Fašaić et al. (1990); Mrakovčić and Mišetić (1990a); Povž et al. (1990); Habeković (1993); Host (1993); Leiner and Povž (1993); Perićić (1993); Curić (1994); Leiner and

Povž (1994); Leiner et al. (1995); Mrakovčić et al. (1995); Jardas (1996); Maitland and Crivelli (1996); Mrakovčić et al. (1996a); Mrakovčić et al. (1996b); Holčík and Mrakovčić (1997); Kottelat (1997); Bonacci et al. (1998); Kerovec (1998); Leiner (1998b); Pallaoro (1998); Schneider (1998); Tvrtković (1998); Mrakovčić et al. (2000a); Mrakovčić et al. (2000b); Mikavica et al. (2001); Simonović (2001); Povž (2002); Treer et al. (2002); Treer et al. (2003c); Balbo (2005); Bašić (2005); Jakirčević (2005); Matić-Skoko et al. (2005); Mustafić (2005); Pažur (2005); Treer et al. (2005); Dulčić and Glamuzina (2006); Has-Schön et al. (2006); Mrakovčić et al. (2006); Tvrtković and Veen (2006); Valić (2006); Dulčić et al. (2007); Kottelat and Freyhof (2007); Sallai and Mrakovčić (2007); Tutman et al. (2007); Valić et al. (2007); Kovačić (2008); Marguš (2008); Muhamedagić et al. (2008); Sallai and Kontos (2008); Kužir et al. (2009); Sofradžija (2009); Tvrtković et al. (2009); Bukvić et al. (2010); Glamuzina (2010); Marević (2010); Valić (2010); Vardić Smrzlić (2010); Mrakovčić and Čaleta (2011); Jelić et al. (2012); Šiljeg (2012); Glamuzina et al. (2013); Miočić-Stošić and Kovačević (2013); Duplić (2014); Piria et al. (2014); Tomljanović (2014); Babić (2016); Jelić et al. (2016); Piria et al. (2016b); Piria et al. (2016c); Piria et al. (2016d); Mustafić et al. (2017); Pofuk et al. (2017)

Remarks: in the Danube drainage is very rare based on natural migration and latest reports probably originate from breeding

2.3. ORDER: CLUPEIFORMES

2.3.1. FAMILY: CLUPEIDAE Cuvier, 1816

ALOSA Garsault, 1764

7. *Alosa fallax* (Lacepède, 1803)

Names under which the taxon was mentioned: *Alosa alosa* (Linnaeus, 1758); *Alosa fallax nilotica* (Geoffroy Saint-Hilaire, 1809); *Alosa finta* (Cuvier, 1829); *Alosa vulgaris* (Valenciennes, 1847)

English name: Twaite shad

Croatian name: čepa

Range in Croatia: Adriatic Basin - Neretva River drainage and Baćinska Lakes

Literature: Kolombatović (1881); Kolombatović (1886b); Kosić (1899); Botteri (1891); Kosić (1903); Katurić (1907); Morović (1948); Šoljan (1948); Taler (1953a); Morović (1958); Vuković (1961); Vuković (1962); Vuković (1963); Sabioncello (1967); Vuković and Ivanović (1971); Šoljan (1975); Morović (1976); Bojčić et al. (1982); Lelek (1987); Quignard and Douchement (1991); Mrakovčić et al. (1995); Jardas (1996); Kovačić (1998); Mrakovčić (1998); Mrakovčić et al. (2000a); Mikavica et al. (2001); Bianco (2002); Aprahamian (2003); Mrakovčić et al. (2006); Dulčić and Glamuzina (2006); Dulčić et al. (2007); Muhamedagić et al. (2008); Sofradžija (2009); Glamuzina et al. (2010b); Lipej and Dulčić (2010); Glamuzina et al. (2013); Piria et

al. (2016b)

Remarks: reports for the Ombla River near Dubrovnik have not been confirmed

EX6 *Alosa immaculata* Bennett, 1835

Names under which the taxon was mentioned: *Alausa vulgaris* Valenciennes, 1847; *Alosa alosa* (Linnaeus, 1758); *Alosa caspia nordmanni* Antipa, 1904; *Alosa finta* (Cuvier, 1829); *Alosa kessleri pontica* (Eichwald, 1838); *Alosa pontica* (Eichwald, 1838); *Alosa vulgaris* (Valenciennes, 1847); *Caspialosa nordmanni* Knipowitsch, 1923

English name: Pontic shad

Croatian name: dunavska haringa

Range in Croatia: Danube drainage - Danube, Drava and Sava Rivers

Literature: Mojsisovics (1884); Mojsisovics (1887); Mojsisovics (1897); Glowacki (1885); Sabioncello (1967); Vuković and Ivanović (1971); Mikuska (1979); Bojčić et al. (1982); Mikuska (1983b); Mrakovčić et al. (2006); Sofradžija 2009)

Remarks: regionally extinct species

2.4. ORDER: CYPRINIFORMES

2.4.1. FAMILY: COBITIDAE Swainson, 1838

COBITIS Linnaeus, 1758

8. *Cobitis bilineata* Canestrini, 1865

Names under which the taxon was mentioned: *Cobitis taenia bilineata* Canestrini, 1865; *Cobitis taenia dalmatina* Karaman, 1928

English name: Italian spined loach

Croatian name: dvoprugasti vijun

Range in Croatia: Danube drainage - Plitvice Lakes; Adriatic Basin - Zrmanja River drainage

Literature: Mrakovčić et al. (1995); Mrakovčić et al. (2000c); Schneider et al. (2000b); Bohlen and Ráb (2001); Freyhof and Stelbrink (2007); Kottelat and Freyhof (2007); Buj et al. (2008b); Mrakovčić et al. (2008); Mustafić et al. (2008); Perdices et al. (2008); Zrnčić et al. (2009b); Buj (2010a); Miočić-Stošić and Kovačević (2013); Buj et al. (2014); Buj et al. (2015a); Buj et al. (2015c)

Remarks: taxonomic investigation of specimens from the Plitvice Lakes, previously reported as *C. taenia* and *C. elongatoides*, proved to be *C. bilineata*

9. *Cobitis dalmatina* Karaman, 1928

Names under which the taxon was mentioned: *Cobitis taenia* Linnaeus, 1758; *Cobitis taenia dalmatina* Karaman, 1928

English name: Dalmatian spined loach

Croatian name: cetinski vijun

Range in Croatia: Adriatic Basin - Cetina River drainage

Literature: Giglioli (1880); Faber (1883); Katuriĉ (1883); Kolombatović (1886a); Kolombatović (1888); Katuriĉ (1896a); Langhoffer (1904); Brusina (1907); Karaman (1928); Karaman (1929); Rössler (1931); Taler (1953a); Sabioncello (1967); Marko et al. (1968); Vuković and Ivanović (1971); Bojčić et al. (1982); Lelek (1987); Povž et al. (1990); Habeković (1993); Mrakovčić et al. (1995); Kottelat (1997); Kerovec (1998); Schneider (1998); Tvrtković (1998); Nocita and Vanni (1999); Habeković and Mišetiĉ (2000); Mrakovčić et al. (2000c); Schneider et al. (2000b); Bohlen and Ráb (2001); Odak et al. (2002); Mateš (2004); Mustafić (2005); Mrakovčić et al. (2006); Freyhof and Stelbrink (2007); Kottelat and Freyhof (2007); Buj et al. (2008b); Duplić (2008); Jelić et al. (2008); Mrakovčić et al. (2008); Mustafić et al. (2008); Perdices et al. (2008); Šanda et al. (2008); Tvrtković et al. (2009); Buj (2010a); Popović (2010); Mrakovčić and Čaleta (2011); Freyhof (2012); Kottelat (2012); Buj et al. (2014); Buj et al. (2015a); Buj et al. (2015c); Čaleta et al. (2015)

Remarks: reports for the Zrmanja River is result of misidentification; stenoendemic to the Cetina River and endemic to Croatia

10. *Cobitis elongata* Heckel & Kner, 1858

Names under which the taxon was mentioned: *Cobitis taenia* Linnaeus, 1758; *Cobitis taenia elongata* Heckel & Kner, 1858

English name: Balkan spined loach

Croatian name: veliki vijun

Range in Croatia: Danube drainage - Sava, Kupa and Una Rivers and their tributaries

Literature: Steindachner (1866b); Sebišanović (1880); Brusina (1892); Medić (1901b); RHZZM (1908); Maldini (1935c); Karaman (1952); Vuković and Ivanović (1971); Delić (1993); Habeković et al. (1997); Honsig-Erlenburg et al. (1997); Povž et al. (1998); Mrakovčić et al. (2000c); Povž and Šumer (2000); Bohlen and Ráb (2001); Mrakovčić et al. (2002); Delić et al. (2003a); Povž and Šumer (2003); Mustafić (2005); Mrakovčić et al. (2006); Čaleta (2007); Ivelić et al. (2007); Kottelat and Freyhof (2007); Buj et al. (2008b); Kopjar et al. (2008); Kuĉiniĉ (2008); Miĉetiĉ et al. (2008); Mrakovčić et al. (2008); Treer et al. (2008a); Dumboviĉ et al. (2009); Sofradžija (2009); Buĉar et al. (2010); Buj (2010a); Popović (2010); Piria et al. (2011b); Jakovliĉ et al. (2013); Delić et al. (2014a); Delić et al. (2014b); Čaleta et al. (2015); Piria et al. (2016a); Piria et al. (2016b); Simonović et al. (2017b)

Remarks: endemic to the Danube drainage

11. *Cobitis elongatoides* Băcescu & Mayer, 1969

Names under which the taxon was mentioned: *Cobitis taenia* Linnaeus, 1758; *Cobitis taenia danubialis* Nalbant, 1993

English name: Danube spined loach

Croatian name: obični vijun

Range in Croatia: Danube drainage - middle and lower course of rivers

Literature: Heckel and Kner (1858); Jurinac (1880); Sebišanović (1880); Sebišanović (1881); Mojsisovics (1883); Jurinac (1884); Mojsisovics (1884); Glowacki (1885); Anonymous (1886); Mojsisovics (1889); Sebišanović (1890); Dudan (1893); Kišpatić (1893); Glowacki (1896); Hirc (1897); Hirc (1898); RHZZM (1908); Hirc (1902d); Čurčić (1910); Franić (1910); Hirc (1911); Vutskits (1918); Karaman (1923b); Anonymous (1925); Pešić (1955); Sabioncello (1967); Zobundžija (1968); Vuković and Ivanović (1971); Mikuska (1979); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Veljović (1982); Mikuska (1983a); Mikuska (1983b); Leiner (1985); Habeković et al. (1986); Lelek (1987); Habeković et al. (1990); Povž and Sket (1990); Habeković and Popović (1991); Habeković et al. (1992); Mrakovčić (1992); Delić (1993); Mrakovčić et al. (1996b); Habeković et al. (1997); Honsig-Erlenburg et al. (1997); Leiner (1998a); Majer (1998); Povž et al. (1998); Schneider (1998); Mrakovčić et al. (2000c); Povž and Šumer (2000); Schneider et al. (2000b); Zanella et al. (2000); Mustafić (2001); Mrakovčić et al. (2002); Bakota et al. (2003); Delić et al. (2003a); Mustafić et al. (2003); Getz (2004); Jugović (2004); Mustafić (2005); Sallai and Kontos (2005); Mrakovčić et al. (2006); Čaleta (2007); Ivelić et al. (2007); Kottelat and Freyhof (2007); Prpa et al. (2007); Sallai and Mrakovčić (2007); Buj et al. (2008b); Mrakovčić et al. (2008); Sallai and Kontos (2008); Sevcsik and Erös (2008); Treer et al. (2008a); Delić et al. (2009); Dumbović et al. (2009); Jelić et al. (2009); Kerestessy et al. (2009); Sofradžija (2009); Treer et al. (2009); Zrnčić et al. (2009b); Bučar et al. (2010); Buj (2010a); Jelić et al. (2010); Tvrtković (2010); Vardić Smrzlić (2010); Piria et al. (2011b); Jelić et al. (2012); Delić et al. (2014a); Žutinić et al. (2014); Huang et al. (2016); Piria et al. (2016a); Simonović et al. (2017b)

Remarks: Co-occurrence of *C. elongatoides* with all-female triploid hybrid biotypes has been reported from the Sava and Drava River systems

12. *Cobitis illyrica* Freyhof & Stelbrink, 2007

Names under which the taxon was mentioned: *Cobitis narentana* Karaman, 1928; *Cobitis taenia* Linnaeus, 1758; *Cobitis taenia dalmatina* Karaman, 1928; *Cobitis taenia narentana* Karaman, 1928

English name: Illyrian spined loach

Croatian name: ilirski vijun

Range in Croatia: Adriatic Basin - Prološko Blato Lake and Baćinska Lakes, Matica River near Vrgorac

Literature: Faber (1883); Katuriċ (1883); Kolombatović (1886a); Kolombatović (1886b (*Cobitis taenia*)); Kolombatović (1888); Katuriċ (1896a); Mrakovčić et al. (1996a); Holčċik and Mrakovčić (1997); Leiner (1998b); Schneider (1998); Durand et al. (2000); Mrakovčić et al. (2000a); Schneider et al. (2000a); Miotti (2002); Zanella et al. (2003a); Freyhof and Stelbrink (2007); Kottelat and Freyhof (2007); Duplić (2008); Jelić et al. (2008); Mrakovčić et al. (2008); Mustafić et al. (2008); Šanda et al. (2008); Buj (2010a); Popović (2010); Freyhof (2012); Kottelat (2012); Buj et al. (2014); Buj et al. (2015a); Buj et al. (2015c); Čaleta et al. (2015)

Remarks: endemic to the Adriatic Basin

13. *Cobitis jadovaensis* Mustafic & Mrakovcic, 2008

Names under which the taxon was mentioned: *Barbatula barbatula* (Linnaeus, 1758); *Cobitis taenia* Linnaeus, 1758

English name: Jadova spined loach

Croatian name: jadovski vijun

Range in Croatia: Adriatic Basin - Jadova River

Literature: Buj et al. (2008b); Jelić et al. (2008); Buj et al. (2008b); Duplić (2008); Mrakovčić et al. (2008); Mustafić et al. (2008); Buj (2010a); Popović (2010); Freyhof (2012); Kottelat (2012); Buj et al. (2014); Buj et al. (2015c); Čaleta et al. (2015); Mihinjač et al. (2015a); Jelić et al. (2016); Jelić and Krivek (2017)

Remarks: stenoendemic to the Jadova River and endemic to Croatia

14. *Cobitis narentana* Karaman, 1928

Names under which the taxon was mentioned: *Cobitis taenia* Linnaeus, 1758; *Cobitis taenia narentana* Karaman, 1928

English name: Neretva spined loach

Croatian name: neretvanski vijun

Range in Croatia: Adriatic Basin - Neretva River drainage

Literature: Faber (1883); Katuriċ (1883); Katuriċ (1896a); Katuriċ (1907); Karaman (1928); Karaman (1929); Taler (1953a); Vuković (1963); Sabioncello (1967); Vuković and Ivanović (1971); Bojčić et al. (1982); Kottelat (1997); Leiner (1998b); Schneider (1998); Mrakovčić et al. (2000c); Schneider et al. (2000a); Schneider et al. (2000b); Bohlen and Ráb (2001); Odak et al. (2002); Zanella et al. (2003a); Mrakovčić et al. (2006); Freyhof and Stelbrink (2007); Kottelat and Freyhof (2007); Buj et al. (2008b); Jelić et al. (2008); Mrakovčić et al. (2008); Mustafić et al. (2008); Šanda et al. (2008); Sofradžija (2009); Zanella et al. (2009b); Buj (2010a); Glamuzina et al. (2010b); Popović (2010); Gabelica et al. (2011); Freyhof (2012); Kottelat

(2012); Glamuzina et al. (2013); Buj et al. (2014); Buj et al. (2015a); Buj et al. (2015c); Čaleta et al. (2015)

Remarks: reports for the Cetina River is the result of misidentification; endemic to the Neretva River drainage

MISGURNUS Lacepède, 1803

15. *Misgurnus fossilis* (Linnaeus, 1758)

Names under which the taxon was mentioned: *Cobitis fossilis* Linnaeus, 1758

English name: Weatherfish

Croatian name: piškur

Range in Croatia: Danube drainage - lower course and backwaters of rivers; Adriatic Basin - Gacka River, Blata Field and Stajnička Jaruga creek in the Lika region

Literature: Taube (1777); Heckel and Kner (1858); Brusina (1878); Jurinac (1880); Sebišanović (1880); Sebišanović (1881); Mojsisovics (1883); Jurinac (1884); Glowacki (1885); Anonymous (1886); Kesterčanek (1886); Jurinac (1887); Hefele (1889); Mojsisovics (1889); Sebišanović (1890); Brusina (1892); Dudan (1893); Kišpatić (1893); Anonymous (1894f); Glowacki (1896); Hirc (1896); Hirc (1897); Hirc (1899d); Ivakić (1905); RHZZM (1908); Trgovčević (1908); Anonymous (1909a); Čurčić (1910); Kempf (1910); Lang (1911); Vutskits (1918); Plančić (1920); Anonymous (1925); Kaitner (1928); Fink (1932a); Trgovčević (1932); Maldini (1935c); Taler (1947); Taler (1948c); Plančić et al. (1953); Taler (1953a); Pešić (1955); Sabioncello (1967); Zobundžija (1968); Vuković and Ivanović (1971); Klašterka (1979); Mikuska (1979); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Veljović (1982); Ocvirk (1984); Lelek (1987); Delić (1993); Crivelli (1995); Povž (1995); Delić et al. (1997); Leiner (1998a); Majer (1998); Mrakovčić et al. (2000c); Povž and Šumer (2000); Zanella et al. (2000); Mustafić (2001); Mrakovčić et al. (2002); Delić et al. (2003a); Eros et al. (2003); Jakirčević (2005); Mustafić (2005); Suić (2005); Mrakovčić et al. (2006); Tvrtković and Veen (2006); Čaleta (2007); Knežević (2007); Kottelat and Freyhof (2007); Sallai and Mrakovčić (2007); Mrakovčić et al. (2008); Sallai and Kontos (2008); Delić et al. (2009); Sofradžija (2009); Bučar et al. (2010); Golub (2011); Zelić et al. (2011); Jelić et al. (2012); Jakovlić et al. (2013); Jelić et al. (2016); Pofuk et al. (2017)

Remarks: populations in the Lika region may have been introduced from the Danube drainage, although the presence of a native population in the Lika region cannot be ruled out without further investigation.

SABANEJEWIA Vladykov, 1929

16. *Sabanejewia balcanica* (Karaman, 1922)

Names under which the taxon was mentioned: *Cobitis aurata* De Filippi, 1863; *Cobitis aurata balcanica* Karaman, 1922; *Cobitis balcanica* Karaman, 1922; *Sabanejewia*

aurata (De Filippi, 1863); *Sabanejewia aurata balcanica* Karaman, 1922; *Sabanejewia bulgarica* (Drensky 1928)

English name: Balkan golden loach

Croatian name: zlatni vijun

Range in Croatia: Danube drainage - middle and lower course of rivers

Literature: Karaman (1922); Karaman (1952); Sabioncello (1967); Vuković and Ivanović (1971); Lelek (1987); Delić (1993); Honsig-Erlenburg et al. (1997); Povž et al. (1998); Mrakovčić et al. (2000c); Povž and Šumer (2000); Delić et al. (2003a); Delić (2003); Delić et al. (2003b); Eros et al. (2003); Mustafić (2005); Sallai and Kontos (2005); Mrakovčić et al. (2006); Kottelat and Freyhof (2007); Sallai and Mrakovčić (2007); Buj et al. (2008a); Kučinić (2008); Mičetić et al. (2008); Mrakovčić et al. (2008); Sallai and Kontos (2008); Zanella et al. (2008b); Delić et al. (2009); Dumbović et al. (2009); Jelić et al. (2009); Zrnčić et al. (2009a); Bučar et al. (2010); Marešová et al. (2011); Jelić et al. (2012); Delić et al. (2014a); Delić et al. (2014b); Piria et al. (2016a)

Remarks: presence of *S. bulgarica* (Drensky, 1928) has not been confirmed for Croatia

17. *Sabanejewia larvata* (De Filippi, 1859)

English name: Italian loach

Croatian name: talijanski vijun

Range in Croatia: Danube drainage - Plitvice Lakes

Literature: personal data

Remarks: Recent investigation of morphology and phylogenetics (unpublished data) on material from the Plitvice Lakes that was previously reported as *C. taenia* or *C. elongatoides*, revealed the presence of *S. larvata*, which is the first report of this species in Croatia.

2.4.2. FAMILY: NEMACHEILIDAE Regan, 1911

BARBATULA Linck, 1790

18. *Barbatula barbatula* (Linnaeus, 1758)

Names under which the taxon was mentioned: *Nemacheilus barbatulus* (Linnaeus, 1758); *Nemachilus barbatula*

English name: Stone loach

Croatian name: brkica

Range in Croatia: Danube drainage - upper and middle course of rivers

Literature: Jurinac (1880); Jurinac (1884); Mojsisovics (1884); Kišpatić (1893); Hirc (1897); Vutskits (1918); Sabioncello (1967); Vuković and Ivanović (1971); Brusina (1878); Klašterka (1979); Bojčić et al. (1982); Veljović (1982); Delić (1984); Vrenk (1984); Delić (1989); Habeković et al. (1990); Harka (1992); Martinović et al. (1992); Delić

(1993); Habeković (1993); Zrnčić (1995); Mrakovčić et al. (1996b); Delić et al. (1997); Honsig-Erlenburg et al. (1997); Kerovec (1998); Leiner (1998a); Majer (1998); Schneider (1998); Holčík and Delić (2000); Zanella et al. (2000); Mustafić (2001); Mrakovčić et al. (2002); Bakota et al. (2003); Bošnjir et al. (2003); Delić et al. (2003a); Jugović (2004); Mateš (2004); Bošnjir et al. (2005); Jakirčević (2005); Mustafić (2005); Mrakovčić et al. (2006); Bošnjir et al. (2007); Čaleta (2007); Prpa et al. (2007); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Šedivá et al. (2008); Treer et al. (2008a); Delić et al. (2009); Dumbović et al. (2009); Jelić et al. (2009); Sofradžija (2009); Treer et al. (2009); Bukvić et al. (2010); Jelić et al. (2010); Ozimec et al. (2010); Vardić Smrzlić (2010); Jelić et al. (2012); Piria et al. (2016a)

2.4.3. FAMILY: ACHEILOGNATHIDAE Bleeker, 1863

RHODEUS Agassiz, 1832

19. *Rhodeus amarus* (Bloch, 1782)

Names under which the taxon was mentioned: *Cyprinus amarus* Bloch, 1782; *Rhodeus sericeus* (Pallas, 1776); *Rhodeus sericeus amarus* (Bloch, 1782)

English name: European bitterling

Croatian name: gavčica

Range in Croatia: Danube drainage - widespread; Adriatic Basin - introduced to Zrmanja (personal data) and Neretva River drainages

Literature: Heckel and Kner (1858); Steindachner (1866b); Sebišanović (1880); Jurinac (1881); Glowacki (1885); Seeley (1886); Jurinac (1887); Sebišanović (1889a); Sebišanović (1890); Brusina (1892); Kišpatić (1893); Glowacki (1896); Hirc (1896); Hirc (1900a); Hirc (1902a); Hirc (1902c); Hirc (1902d); RHZZM (1908); Hirc (1911); Vutskits (1918); Anonymous (1925); Bergleitner (1925); Anonymous (1928h); Maldini (1936b); Rotarides (1944); Pešić (1955); Sabioncello (1967); Zobundžija (1968); Vuković and Ivanović (1971); Čanadjija (1977); Mikuska (1979); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Mikuska (1983a); Mikuska (1983b); Lelek (1987); Delić (1989); Habeković et al. (1990); Martinović et al. (1992); Mrakovčić (1992); Delić (1993); Crivelli (1995); Mrakovčić et al. (1995); Mrakovčić et al. (1996b); Habeković et al. (1997); Leiner (1998a); Majer (1998); Povž et al. (1998); Holčík (1999); Zanella et al. (2000); Mikavica et al. (2001); Mustafić (2001); Mrakovčić et al. (2002); Bakota et al. (2003); Jugović (2004); Mustafić (2005); Sallai and Kontos (2005); Čaleta (2007); Kottelat and Freyhof (2007); Prpa et al. (2007); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Treer et al. (2008a); Zanella et al. (2008b); Delić et al. (2009); Dumbović et al. (2009); Jelić et al. (2009); Kerestessy et al. (2009); Sofradžija (2009); Treer et al. (2009); Zrnčić et al. (2009a); Bryja et al. (2010); Bučar et al. (2010); Jelić et al. (2010); Tvrtković (2010); Ištók (2011);

Piria et al. (2011b); Jelić et al. (2012); Delić et al. (2014a); Žutinić et al. (2014); Simonović et al. (2017b)

Remarks: non-native in the Adriatic Basin

2.4.4. FAMILY: CYPRINIDAE Rafinesque, 1815

AULOPYGE Heckel, 1841

20. *Aulopyge huegeli* Heckel, 1843

Names under which the taxon was mentioned: *Aulopyge hugeli* Heckel 1841; *Aulopyge huegeli* Heckel, 1843; *Aulopyge hügelii* Heckel, 1843

English name: Dalmatian Barbel-gudgeon

Croatian name: oštrulja

Range in Croatia: Adriatic Basin – Krka, Čikola, Cetina, Ruda and Rumin Rivers

Literature: Heckel (1841a); Heckel (1841b); Heckel (1842); Heckel (1843); Bonaparte (1845); Bonaparte (1846); Carrara (1846); Heckel and Kner (1858); Brusina (1872); Brusina (1878); Giglioli (1880); Faber (1883); Katuri (1883); Kolombatović (1886a); Kolombatović (1886b); Seeley (1886); Kolombatović (1888); Brusina (1890); Botteri (1891); Kišpatić (1893); Katuri (1896a); Petermann (1899); Langhoffer (1904); Brusina (1907); Katuri (1907); Car (1911); Čurčić (1917); Karaman (1923b); Koller (1928); Čurčić (1939a); Taler (1949a); Plančić (1950); Taler (1951b); Taler (1951g); Anonymous (1953a); Škovrlj (1953a); Taler (1953a); Taler (1953f); Taler (1954a); Basioli (1958b); Pešić (1961); Aganović and Vuković and Prolić (1966); Kapetanović et al. (1966); Sabioncello (1967); Karaman (1971); Vuković and Ivanović (1971); Đurović (1975); Bojčić et al. (1982); Kottelat (1984); Tvrtković (1985); Bianco (1986); Guzina (1986); Howes (1987); Lelek (1987); Fašaić et al. (1990); Mrakovčić and Mišetić (1990a); Mrakovčić and Mišetić (1990b); Povž et al. (1990); Zupančić (1990); Habeković (1993); Habeković (1994b); Mrakovčić et al. (1995); Crivelli (1996); Maitland and Crivelli (1996); Freyhof (1997); Kottelat (1997); Kerovec (1998); Schneider (1998); Šorić and Bănărescu et al. (1999a); Nocita and Vanni (1999); Guzina (2000); Habeković and Mišetić (2000); Bless and Riehl (2002); Miotti (2002); Rüdiger and Rüdiger (2002); Tvrtković and Franičević (2002); Mustafić (2005); Mrakovčić et al. (2006); Tvrtković and Veen (2006); Valić (2006); Kottelat and Freyhof (2007); Prpa et al. (2007); Jelić et al. (2008); Marguš (2008); Treer et al. (2008a); Čaleta et al. (2009b); Treer et al. (2009); Tvrtković et al. (2009); Popović (2010); Mrakovčić and Čaleta (2011); Freyhof (2012); Glamuzina et al. (2013); Čaleta et al. (2015); Landeka et al. (2015); Mustafić and Mrakovčić (2017)

Remarks: endemic to the Adriatic Basin; reports for the Zrmanja River not confirmed

BARBUS Cuvier & Cloquet, 1816

21. *Barbus balcanicus* Kotlík, Tsigenopoulos, Ráb & Berrebi, 2002

Names under which the taxon was mentioned: *Barbus caninus* Bonaparte, 1839; *Barbus meridionalis* Risso, 1827; *Barbus meridionalis petenyi* Heckel, 1852; *Barbus peloponnesius* Valenciennes, 1842; *Barbus petenyi* Heckel, 1852

English name: Danube barbel

Croatian name: potočna mrena

Range in Croatia: Danube drainage - upper and middle course of rivers

Literature: Steindachner (1866b); Sebišanović (1880); Sebišanović (1881); Glowacki (1885); Mojsisovics (1887); Mojsisovics (1889); Sebišanović (1890); Brusina (1892); Brusina (1893); Kišpatić (1893); Glowacki (1896); Hirc (1898); Hirc (1899d); Hirc (1900a); Medić (1901b); Langhoffer (1904); RHZZM (1908); Vutskits (1918); Koller (1926); Kaitner (1929b); Maldini (1935b); Smlatić (1961); Sabioncello (1967); Karaman (1971); Vuković and Ivanović (1971); Klačterka (1979); Delić (1984); Popović and Fašaić (1986); Lelek (1987); Delić (1989); Delić (1993); Mrakovčić et al. (1996b); Habeković et al. (1997); Honsig-Erlenburg et al. (1997); Povž et al. (1998); Holčik and Delić (2000); Mustafić (2001); Kotlík et al. (2002); Delić et al. (2003a); Economidis et al. (2003); Domitrović et al. (2004); Jugović (2004); Piria et al. (2004); Jakirčević (2005); Piria et al. (2005b); Mrakovčić et al. (2006); Treer et al. (2006); Kottelat and Freyhof (2007); Piria (2007); Piria et al. (2007); Prpa et al. (2007); Treer et al. (2008a); Delić et al. (2009); Dumbović et al. (2009); Jelić et al. (2009); Marková et al. (2010); Sofradžija (2009); Treer et al. (2009); Bučar et al. (2010); Kraljić (2010); Perović and Tvrtković (2010); Tvrtković (2010); Jelić et al. (2012); Delić et al. (2014a); Žutinić et al. (2014); Piria et al. (2016a); Simonović et al. (2017b)

22. *Barbus barbus* (Linnaeus, 1758)

Names under which the taxon was mentioned: *Barbus fluviatilis* Fitzinger, 1832; *Barbus vulgaris* Fleming, 1828

English name: Barbel

Croatian name: mrena

Range in Croatia: Danube drainage - middle and lower course of rivers

Literature: Heckel and Kner (1858); Jurinac (1880); Sebišanović (1880); Jurinac (1884); Glowacki (1885); Anonymous (1886); Kesterčanek (1886); Seeley (1886); Jurinac (1887); Šošarić (1888); Hefele (1889); Sebišanović (1890); Brusina (1892); Franke (1892); Brusina (1893); Dudan (1893); Kišpatić (1893); Glowacki (1896); Hirc (1896); Hirc (1897); Franić (1898); Hirc (1898); Steuer (1899); RHZZM (1908); Čurčić (1910); Kempf (1910); Hirc (1911); Lang (1911); Vutskits (1918); Plančić (1923b);

Anonymous (1925); Anonymous (1930c); Anonymous (1931c); Fink (1932b); Trojanović (1934); Bek (1935); Maldini (1935b); Anonymous (1937b); Maldini (1938b); Taler (1945a); Anonymous (1946a); Bergleitner (1946); Hafner-Lahorski (1948b); Morović (1948); Basioli (1957a); Jagodić (1957); Sabioncello (1967); Vuković and Ivanović (1971); Čanadjija (1977); Klačterka (1979); Mikuska (1979); Bojčić et al. (1982); Veljović (1982); Mikuska (1983a); Mikuska (1983b); Delić (1984); Mikuska (1984); Vrenk (1984); Tvrtković (1985); Veljović (1985); Habeković et al. (1986); Lelek (1987); Habeković et al. (1990); Habeković and Popović (1991); Homen et al. (1991); Mrakovčić (1992); Pažur (1993); Zrnčić (1995); Mrakovčić et al. (1996b); Habeković et al. (1997); Honsig-Erlenburg et al. (1997); Majer (1998); Povž et al. (1998); Mustafić (2001); Mrakovčić et al. (2002); Bănărescu et al. (2003); Bošnjir et al. (2003); Domitrović et al. (2004); Piria et al. (2004); Bošnjir et al. (2005); Jakirčević (2005); Mustafić (2005); Pažur (2005); Piria et al. (2005b); Piria et al. (2005a); Sallai and Kontos (2005); Mrakovčić et al. (2006); Treer et al. (2006); Bošnjir et al. (2007); Čaleta (2007); Ivelić et al. (2007); Kottelat and Freyhof (2007); Piria (2007); Prpa et al. (2007); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Sevcsik and Erös (2008); Treer et al. (2008a); Dumbović et al. (2009); Kerestessy et al. (2009); Sofradžija (2009); Treer et al. (2009); Bučar et al. (2010); Ozimec et al. (2010); Vardić Smrzlić (2010); Matulić et al. (2011); Piria et al. (2011b); Jelić et al. (2012); Muhamedagić and Habibović (2013); Delić et al. (2014a); Piria et al. (2016a); Simonović et al. (2017b); Nedić et al. (2018); Zuliani et al. (2019)

23. *Barbus plebejus* Bonaparte, 1839

Names under which the taxon was mentioned: *Barbus meridionalis caninus* Almaça, 1969; *Barbus balcanicus* Kotlík, Tsigenopoulos, Ráb & Berrebi, 2002; *Barbus barbus* (Linnaeus, 1758); *Barbus barbus plebejus* Bonaparte, 1839; *Barbus caninus* Bonaparte, 1839; *Barbus eques* Bonaparte, 1839; *Barbus fluviatilis* Fitzinger, 1832; *Barbus plebeius* Valenciennes, 1842

English name: Italian barbel

Croatian name: mren

Range in Croatia: Adriatic Basin - rivers on the Istrian Peninsula, Krka and Zrmanja River drainage

Literature: Grisogono (1780); Carrara (1846); Heckel and Kner (1858); Dybowski (1862); Canestrini (1866); Brusina (1874); Canestrini (1874); Faber (1883); Katurić (1883); Kolombatović (1886a); Kolombatović (1886b); Seeley (1886); Katurić (1887); Kolombatović (1888); Botteri (1891); Kišpatić (1893); Katurić (1896a); Katurić (1896c); Petermann (1899); Langhoffer (1904); Largaiolli (1904); Katurić (1907); Kolombatović (1907); Karaman (1923b); Koller (1926); Karaman (1928); Rössler (1931); Gridelli (1936); Hafner-Lahorski (1947a); Taler (1954a); Basioli

(1958b); Anonymous (1967); Sabioncello (1967); Karaman (1971); Vuković and Ivanović (1971); Žikić and Bertoša (1980); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Almaca (1984b); Almaca (1984a); Leiner (1984); Leiner (1985); Lelek (1987); Fašaić et al. (1990); Mrakovčić and Mišetić (1990a); Povž et al. (1990); Povž (2002); Leiner and Povž (1993); Leiner and Povž (1994); Leiner et al. (1995); Bianco (1995b); Mrakovčić et al. (1995); Crivelli (1996); Maitland and Crivelli (1996); Kottelat (1997); Bianco (1998); Mrakovčić (1998); Schneider (1998); Nocita and Vanni (1999); Mrakovčić et al. (2000b); Bianco (2003); Zerunian (2004); Piria et al. (2005b); Mrakovčić et al. (2006); Kottelat and Freyhof (2007); Valić et al. (2007); Jelić et al. (2008); Marguš (2008); Bianco (2014a); Bianco (2014b); Čaleta et al. (2015); Piria et al. (2016b)

Remarks: endemic to the Adriatic Basin

CARASSIUS Jarocki, 1822

24. *Carassius auratus* (Linnaeus, 1758)

Names under which the taxon was mentioned: *Carassius auratus auratus* (Linnaeus, 1758)

English name: Goldfish

Croatian name: zlatna ribica

Range in Croatia: Danube drainage and Adriatic Basin - introduced locally

Literature: Maldini (1935c); Leiner (1984); Leiner (1985); Treer (1989); Leiner and Povž (1993); Delić (1993); Crivelli (1995); Leiner et al. (1995); Szczerbowski and Szczerbowski (2002); Mrakovčić et al. (2006); Prpa et al. (2007); Jakovlić and Gui (2011); Povž and Gregori (2014); Piria et al. (2016b); Jelić and Krivek (2017); Piria et al. (2018)

Remarks: non-native species in Croatia; it is possible that older reports of *C. auratus* are result of misidentification while new records are individuals of domesticated (colored) form

25. *Carassius carassius* (Linnaeus, 1758)

Names under which the taxon was mentioned: *Carassius vulgaris* Nordmann, 1840

English name: Crucian carp

Croatian name: karas

Range in Croatia: Danube drainage - floodplains in the drainage, introduced to the Krbavsko Field; Adriatic Basin – introduced to the Tribalj reservoir, Vransko Lake near Biograd and Jadova River in Lika region

Literature: Brusina (1878); Jurinac (1880); Sebišanović (1880); Jurinac (1881); Sebišanović (1881); Mojsisovics (1883); Jurinac (1884); Mojsisovics (1884); Glowacki (1885); Anonymous (1886); Kesterčanek (1886); Seeley (1886); Hefele (1889); Sebišanović (1889a); Sebišanović (1890); Brusina (1892); Brusina (1893); Dudan (1893); Kišpatić (1893); Anonymous (1896a); Glowacki (1896);

Horvat (1900c); Ivakić (1905); RHZZM (1908); Čurčić (1910); Kempf (1910); Vutskits (1918); Plančić (1920); Plančić (1923b); Anonymous (1925); Rössler (1928); Fink (1932a); Thaller (1932); Trojanović (1934); Maldini (1935c); Maldini (1938b); Anonymous (1946a); Franić (1949); Taler (1951e); Plančić (1955); Grce (1956); Grce (1957); Morović (1962); Knežević (1963b); Sabioncello et al. (1964); Pešić (1955); Habeković (1967); Sabioncello (1967); Pažur (1968a); Pažur (1969c); Zobundžija (1968); Pažur (1969b); Vuković and Ivanović (1971); Fijan (1976b); Čanadžija (1977); Klačterka (1979); Mikuska (1979); Bojčić et al. (1982); Veljović (1982); Mikuska (1983a); Mikuska (1983b); Delić (1984); Mikuska (1984); Pompe-Gotal (1984); Vrenk (1984); Tvrtković (1985); Veljović (1985); Habeković et al. (1986); Lelek (1987); Mišetić et al. (1989); Treer (1989); Habeković et al. (1990); Habeković and Popović (1991); Mrakovčić (1992); Crivelli (1995); Mrakovčić et al. (1995); Povž (1995); Mrakovčić et al. (1996b); Majer (1998); Zanella et al. (2000); Mustafić (2001); Mrakovčić et al. (2002); Szczerbowski and Szczerbowski (2002); Bakota et al. (2003); Leiner (2003); Jakirčević (2005); Pažur (2005); Suić (2005); Mrakovčić et al. (2006); Knežević (2007); Kottelat and Freyhof (2007); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Sevcsik and Erös (2008); Treer et al. (2008a); Sofradžija (2009); Treer et al. (2009); Buj (2010c); Ozimec et al. (2010); Zelić et al. (2011); Jelić et al. (2012); Marčić et al. (2012); Marr et al. (2013); Jelić et al. (2016); Piria et al. (2016a); Mustafić et al. (2017); Pofuk et al. (2017)

Remarks: non-native in the Krbavsko Field and Adriatic Basin

26. *Carassius gibelio* (Bloch, 1782)

Names under which the taxon was mentioned: *Carassius auratus* (Linnaeus, 1758); *Carassius auratus gibelio* (Bloch, 1782); *Carassius carassius* (Linnaeus, 1758)

English name: Gibel carp

Croatian name: babuška

Range in Croatia: introduced to the Danube drainage and Adriatic Basin

Literature: Jurinac (1880); Jurinac (1880); Sebišanović (1880); Jurinac (1881); Jurinac (1884); Hirc (1897); Vutskits (1918); Maldini (1935c); Gridelli (1936); Plančić (1967); Sabioncello (1967); Vuković and Ivanović (1971); Mikuska (1979); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Povž (1982); Mikuska (1983a); Mikuska (1983b); Delić (1984); Leiner (1984); Delić (1985); Leiner (1985); Tvrtković (1985); Habeković et al. (1986); Lelek (1987); Turk et al. (1987); Delić (1989); Treer (1989); Habeković et al. (1990); Homen et al. (1991); Martinović et al. (1992); Mrakovčić (1992); Delić (1993); Habeković (1993); Leiner and Povž (1993); Habeković (1994b); Leiner and Povž (1994); Leiner et al. (1995); Mrakovčić et al. (1995); Povž (1995); Zrnčić (1995); Kajgana (1996); Mihaljević

et al. (1996); Mrakovčić et al. (1996b); Habeković et al. (1997); Kerovec (1998); Leiner (1998b); Leiner (1998a); Majer (1998); Schneider (1998); Mrakovčić et al. (2000a); Zanella et al. (2000); Mustafić (2001); Mrakovčić et al. (2002); Szczerbowski (2002); Bakota et al. (2003); Bošnjir et al. (2003); Delić et al. (2003a); Leiner (2003); Treer et al. (2003c); Jugović (2004); Piria et al. (2004); Bošnjir et al. (2005); Jakirčević (2005); Mustafić (2005); Pažur (2005); Suić (2005); Mrakovčić et al. (2006); Bošnjir et al. (2007); Dulčić et al. (2007); Čaleta (2007); Knežević (2007); Kottelat and Freyhof (2007); Sallai and Mrakovčić (2007); Valić et al. (2007); Duplić (2008); Sallai and Kontos (2008); Treer et al. (2008a); Valić et al. (2008); Delić et al. (2009); Dumbović et al. (2009); Jelić et al. (2009); Kerestessy et al. (2009); Tvrtković et al. (2009); Piria et al. (2009); Sofradžija (2009); Treer et al. (2009); Bukvić et al. (2010); Jelić et al. (2010); Jelkić et al. (2010); Ozimec et al. (2010); Treer et al. (2011); Vardić Smrzlić (2010); Matulić et al. (2011); Mrakovčić and Čaleta (2011); Jelić et al. (2012); Marčić et al. (2012); Tomljanović et al. (2012b); Marr et al. (2013); Rylková et al. (2013); Zrnčić et al. (2013); Delić et al. (2014a); Duplić (2014); Nedić et al. (2014a); Nedić et al. (2014b); Povž and Gregori (2014); Riđanović et al. (2014); Žutinić et al. (2014); Piria et al. (2016a); Piria et al. (2016b); Piria et al. (2016c); Mustafić et al. (2017); Simonović et al. (2017b); Nedić et al. (2018); Piria et al. (2018)

Remarks: non-native, invasive species presence of *Carassius langsdorffii* Temminck & Schlegel, 1846 was not confirmed for Croatia although it was reported from Neretva river basin (Hutovo blato wetland) in Bosnia and Herzegovina (Kalous et al. 2013) very close to Croatian border

CYPRINUS Linnaeus, 1758

27. *Cyprinus carpio* Linnaeus, 1758

Names under which the taxon was mentioned: *Cyprinus acuminatus* Heckel & Kner, 1858; *Cyprinus carpio carpio* Linnaeus, 1758

English name: Common carp

Croatian name: šaran

Range in Croatia: Danube drainage - middle and lower course of the rivers, lakes and reservoirs; Adriatic Basin - introduced to rivers and reservoirs

Literature: Taube (1777); Grisogono (1780); Heckel and Kner (1858); Šloser (1870); Brusina (1878); Jurinac (1880); Sebišanović (1880); Borne (1881); Mojsisovics (1883); Jurinac (1884); Glowacki (1885); Anonymous (1886); Kesterčanek (1886); Seeley (1886); Jurinac (1887); Hefe (1889); Sebišanović (1890); Dudan (1891); Brusina (1892); Anonymous (1893a); Brusina (1893); Dudan (1893); Kišpatić (1893); Anonymous (1894a); Flögel (1894); Anonymous (1896a); Glowacki (1896); Hirc (1896); Anonymous (1897a); Hirc (1897); Zagorac (1897); Anonymous (1899b); Anonymous (1899d); Aue (1900);

Hirc (1900b); Largaiolli (1904); Anonymous (1905a); Ivakić (1905); Peheim (1905); Anonymous (1906d); Anonymous (1906e); Anonymous (1907a); Anonymous (1907b); RHZZM (1908); Anonymous (1909a); Anonymous (1910b); Čurčić (1910); Lorini (1910); Rössler (1910); Anonymous (1911); Hruška (1911); Vutskits (1918); Plančić (1920); Plančić (1923a); Anonymous (1925); Kaitner (1926a); Anonymous (1927c); Anonymous (1927h); Anonymous (1928c); Rössler (1928); Anonymous (1929a); Anonymous (1930c); Anonymous (1931b); Anonymous (1931c); Fink (1932a); Fink (1932b); Krajačić (1932); Thaller (1932); Tadić (1933); Trojanović (1934); Anonymous (1935j); Hafner-Lahorski (1935a); Jedlička (1935); Maldini (1935c); Plančić (1935a); Samobor (1935); Maldini (1936a); Anonymous (1937b); Maldini (1938b); Anonymous (1946a); Anonymous (1947b); Anonymous (1947c); Taler (1947); Anonymous (1948b); Anonymous (1948c); Fijan (1948a); Fijan (1948b); Morović (1948); Taler (1948c); Taler (1948e); Anonymous (1949); Fijan (1949); Livojević (1949); Fijan (1950); Hafner-Lahorski (1950a); Hafner-Lahorski (1950b); Plančić (1950); Fijan (1951a); Fijan (1951b); Taler (1951e); Basioli (1952); Glavan (1952); Plančić (1952d); Fijan (1953); Hafner-Lahorski (1953a); Plančić (1953b); Škovrlj (1953a); Taler (1953a); Taler (1953d); Pešić (1955); Plančić (1955); Fijan (1956); Grce (1956); Plančić (1956a); Basioli (1957a); Grce (1957); Grubišić (1957); Jagodić (1957); Basioli (1958a); Basioli (1958b); Grce (1959); Sabioncello (1959); Basioli (1960); Vuletić (1960); Sokal (1961); Livojević (1962b); Livojević (1962a); Morović (1962); Morović (1963); Fijan (1964); Morović (1964a); Sabioncello et al. (1964); Bikić (1966); Vraneš (1966); Habeković (1967); Hadžić (1967); Morović (1967); Sabioncello (1967); Pažur (1968a); Zobundžija (1968); Anonymous (1969b); Morović (1970); Sabioncello et al. (1970); Vrebac (1970); Sabioncello (1971a); Tóth and Mikuska (1971); Vuković and Ivanović (1971); Pogrmilović (1972); Vrebac (1972); Habeković (1973); Herga (1968); Fijan (1975); Munjko (1975); Fijan (1976b); Munjko (1978); Klašterka (1979); Radaković et al. (1980); Žikić and Bertoša (1980); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Veljović (1982); Bauer (1983); Mikuska (1983a); Delić (1984); Leiner (1984); Mikuska (1984); Mikuska and Mamić (1984); Ocvirk (1984); Pompe-Gotal (1984); Ržaničanin et al. (1984a); Ržaničanin et al. (1985); Treer et al. (1984); Vrenk (1984); Leiner (1985); Mikuska (1985); Tvrtković (1985); Habeković et al. (1986); Delić (1987); Lelek (1987); Treer (1987); Turk et al. (1987); Delić (1989); Mišetić et al. (1989); Treer (1989); Treer et al. (1989); Habeković et al. (1990); Kažić et al. (1990); Mrakovčić and Mišetić (1990a); Homen et al. (1991); Treer et al. (1991); Mrakovčić (1992); Debeljak et al. (1993); Delić (1993); Leiner and Povž (1993); Pažur (1993); Leiner and Povž (1994); Leiner et al. (1995); Mrakovčić et al. (1995); Treer et al. (1995); Turk and Debeljak (1995); Maitland and Crivelli (1996); Mihaljević et al. (1996); Mrakovčić et al. (1996b); Habeković et al. (1997); Kerovec (1998); Leiner (1998a); Leiner (1998b); Majer (1998); Mrakovčić (1998);

Povž et al. (1998); Schneider (1998); Treer et al. (1998); Tvrtković (1998); Habeković and Mišetić (2000); Habeković and Pažur (2000); Holčík and Delić (2000); Mrakovčić et al. (2000a); Treer (2000a); Zanella et al. (2000); Mikavica et al. (2001); Mustafić (2001); Baruš et al. (2002); Mrakovčić et al. (2002); Treer et al. (2002); Delić et al. (2003a); Treer et al. (2003c); Getz (2004); Jugović (2004); Piria et al. (2004); Balbo (2005); Jakirčević (2005); Mustafić (2005); Pažur (2005); Has-Schön et al. (2006); Mrakovčić et al. (2006); Bogut et al. (2007); Domitrović et al. (2007); Dulčić et al. (2007); Čaleta (2007); Kottelat and Freyhof (2007); Prpa et al. (2007); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Sevcsik and Erös (2008); Suić et al. (2008); Treer et al. (2008a); Valić et al. (2008); Delić et al. (2009); Jelić et al. (2009); Tvrtković et al. (2009); Sofradžija (2009); Treer et al. (2009); Bukvić et al. (2010); Jelkić et al. (2010); Ozimec et al. (2010); Treer et al. (2011); Vardić Smrzlić (2010); Zupančič et al. (2010b); Ištók (2011); Labak (2011); Matulić et al. (2011); Mrakovčić and Čaleta (2011); Tomljanović et al. (2011); Freyhof (2012); Jelić et al. (2012); Marčić et al. (2012); Vilizzi (2012); Jelkić and Opačak (2013); Marr et al. (2013); Tomljanović et al. (2013a); Zrnčić et al. (2013); Delić et al. (2014a); Nedić et al. (2014a); Nedić et al. (2014b); Riđanović et al. (2014); Jelić et al. (2016); Pavličević et al. (2016); Piria et al. (2016a); Piria et al. (2016b); Piria et al. (2016c); Croatian State Archives (2017); Mustafić et al. (2017); Pofuk et al. (2017); Nedić et al. (2018); Piria et al. (2018)

Remarks: non-native in the Adriatic Basin; according to phylogenetic research there are not difference between wild carp populations and individuals from fish farms. Further extensive taxonomic investigation needed.

2.4.5. FAMILY: GOBIONIDAE Bleeker, 1863

GOBIO Cuvier, 1816

28. *Gobio obtusirostris* Valenciennes, 1842

Names under which the taxon was mentioned: *Gobio fluviatilis* Cuvier, 1842; *Gobius fluviatilis*; *Gobio gobio* (Linnaeus, 1758); *Gobio gobio obtusirostris*; *Gobio vulgaris* Heckel, 1837; *Gobius vulgaris*

English name: Danube gudgeon

Croatian name: dunavska krkuš

Range in Croatia: Danube drainage - middle and lower course of rivers; Adriatic Basin - introduced to the Mirna (Istrian peninsula), Ričica and Otuča Rivers (Lika region)

Literature: Piller and Mitterpacher (1783); Heckel and Kner (1858); Steindachner (1866b); Jurinac (1880); Sebišanović (1880); Jurinac (1881); Mojsisovics (1883); Jurinac (1884); Glowacki (1885); Kesterčanek (1886); Seeley (1886); Mojsisovics (1887); Sebišanović (1888); Mojsisovics (1889); Sebišanović (1889a); Sebišanović (1890); Brusina (1892); Kišpatić (1893); Glowacki (1896); Hirc (1896); Medić (1896); Hirc (1897); Hirc (1898); Langhoffer

(1904); RHZZM (1908); Kempf (1910); Hirc (1911); Vutskits (1918); Anonymous (1925); Hafner-Lahorski (1935a); Maldini (1936a); Knop (1947c); Sabioncello (1967); Zobundžija (1968); Vuković and Ivanović (1971); Čanadžija (1977); Klačterka (1979); Mikuska (1979); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Veljović (1982); Mikuska (1983b); Delić (1984); Leiner (1985); Tvrtković (1985); Veljović (1985); Habeković et al. (1986); Lelek (1987); Delić (1989); Habeković and Popović (1991); Habeković et al. (1992); Mrakovčić (1992); Delić (1993); Leiner and Povž (1993); Leiner and Povž (1994); Leiner et al. (1995); Mrakovčić et al. (1995); Mrakovčić et al. (1996b); Habeković et al. (1997); Honsig-Erlenburg et al. (1997); Leiner (1998a); Majer (1998); Povž et al. (1998); Bănărescu et al. (1999a); Holčík and Delić (2000); Mrakovčić et al. (2000b); Mustafić (2001); Mrakovčić et al. (2002); Bakota et al. (2003); Delić et al. (2003a); Jugović (2004); Mateš (2004); Jakirčević (2005); Mustafić (2005); Mustafić et al. (2005); Sallai and Kontos (2005); Mrakovčić et al. (2006); Čaleta (2007); Ivelić et al. (2007); Kottelat and Freyhof (2007); Piria (2007); Prpa et al. (2007); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Treer et al. (2008a); Zanella et al. (2008b); Delić et al. (2009); Dumbović et al. (2009); Jelić et al. (2009); Piria et al. (2009); Sofradžija (2009); Treer et al. (2009); Zrnčić et al. (2009a); Bučar et al. (2010); Buj (2010c); Jelić et al. (2010); Perović and Tvrtković (2010); Piria et al. (2011b); Jelić et al. (2012); Delić et al. (2014a); Čaleta et al. (2015); Jelić et al. (2016); Piria et al. (2016a); Piria et al. (2016b); Pofuk et al. (2017); Simonović et al. (2017b)

Remarks: endemic to the Danube drainage; non-native in the Adriatic Basin (Istria and Lika regions); report for the Plitvice Lakes not confirmed and are likely the result of misidentification

PSEUDORASBORA Bleeker, 1860

29. *Pseudorasbora parva* (Temminck & Schlegel, 1846)

English name: Topmouth gudgeon

Croatian name: bezribica

Range in Croatia: Danube drainage - introduced, widespread; Adriatic Basin - introduced to the Cetina and Neretva River drainages and Vransko Lake near Biograd

Literature: Tvrtković (1985); Habeković and Popović (1991); Janković and Karapetkova (1992); Martinović et al. (1992); Delić (1993); Habeković (1993); Mihaljević et al. (1996); Mrakovčić et al. (1996b); Habeković et al. (1997); Kerovec (1998); Leiner (1998b); Majer (1998); Schneider (1998); Bănărescu (1999b); Zanella et al. (2000); Mustafić (2001); Mrakovčić et al. (2002); Jugović (2004); Piria et al. (2004); Mustafić (2005); Mrakovčić et al. (2006); Čaleta (2007); Kottelat and Freyhof (2007); Sallai and Mrakovčić (2007); Duplić (2008); Sallai and Kontos (2008); Sevcsik and Erös (2008); Delić et al. (2009); Dumbović et al. (2009); Jelić et al. (2009); Kerestessy et al. (2009); Tvrtković et al.

(2009); Sofradžija (2009); Zrnčić et al. (2009a); Jelić et al. (2010); Ozimec et al. (2010); Mrakovčić and Čaleta (2011); Jelić et al. (2012); Marr et al. (2013); Delić et al. (2014a); Povž and Gregori (2014); Piria et al. (2016a); Piria et al. (2016b); Mustafić et al. (2017); Piria et al. (2017); Pofuk et al. (2017); Simonović et al. (2017b); Piria et al. (2018)

Remarks: non-native, invasive species

ROMANOGOBIO Bănărescu, 1962

30. *Romanogobio benacensis* (Pollini, 1816)

Names under which the taxon was mentioned: *Gobio gobio* (Linnaeus, 1758)

English name: Italian gudgeon

Croatian name: talijanska krkuš

Range in Croatia: Adriatic Basin - Mirna River drainage

Literature: Leiner (1985); Leiner and Povž (1993); Čaleta et al. (2015); Pofuk et al. (2017); Jelić et al. (2018)

Remarks: endemic to Adriatic Basin

31. *Romanogobio kesslerii* (Dybowski, 1862)

Names under which the taxon was mentioned: *Gobio kesslerii* Dybowski, 1862

English name: Kessler's gudgeon

Croatian name: Keslerova krkuš

Range in Croatia: Danube drainage - middle and lower course of rivers

Literature: Karaman (1952); Sabioncello (1967); Vuković and Ivanović (1971); Bănărescu and Nalbant (1973); Bojčić et al. (1982); Habeković et al. (1986); Lelek (1987); Honsig-Erlenburg et al. (1997); Povž et al. (1998); Bănărescu (1999a); Mustafić (2001); Mustafić et al. (2005); Sallai and Kontos (2005); Mrakovčić et al. (2006); Kottelat and Freyhof (2007); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Sevcsik and Erös (2008); Dumbović et al. (2009); Kerestessy et al. (2009); Sofradžija (2009); Jelić et al. (2012); Friedrich et al. (2018)

Remarks: it is possible in Croatia is present *R. carpathorossicus*, because specimens from the Kupa river used in article Friedrich et al. (2018) was identified as this species

32. *Romanogobio uranoscopus* (Agassiz, 1828)

Names under which the taxon was mentioned: *Gobio uranoscopus* (Agassiz, 1828)

English name: Stone gudgeon

Croatian name: tankorepa krkuš

Range in Croatia: Danube drainage - fast flowing rivers

Literature: Bonaparte (1832-1841); Heckel and Kner (1858); Siebold (1863); Jurinac (1881); Jurinac (1884);

Glowacki (1885); Seeley (1886); Sebišanović (1888); Sebišanović (1890); Kišpatić (1893); Glowacki (1896); Vutskits (1918); Sabioncello (1967); Vuković and Ivanović (1971); Bănărescu and Nalbant (1973); Bojčić et al. (1982); Lelek (1987); Mrakovčić et al. (1996b); Povž et al. (1998); Bănărescu et al. (1999b); Mustafić et al. (2005); Sallai and Kontos (2005); Mrakovčić et al. (2006); Kottelat and Freyhof (2007); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Sevcsik and Erös (2008); Ozimec et al. (2010); Ištók (2011); Jelić et al. (2012); Čaleta et al. (2015); Piria et al. (2016a); Piria et al. (2016b); Friedrich et al. (2018)

Remarks: some literature data are likely the result of misidentification, endemic to the Danube drainage

33. *Romanogobio vladkovi* (Fang, 1943)

Names under which the taxon was mentioned: *Gobio albipinnatus* Lukasch, 1933; *Romanogobio albipinnatus* (Lukasch, 1933)

English name: Danube whitefin gudgeon

Croatian name: bjeloperajna krkuš

Range in Croatia: Danube drainage - middle and lower course of rivers

Literature: Vuković and Ivanović (1971); Bănărescu and Nalbant (1973); Bojčić et al. (1982); Delić (1993); Naseka et al. (1999); Mrakovčić et al. (2002); Mustafić (2005); Mustafić et al. (2005); Sallai and Kontos (2005); Mrakovčić et al. (2006); Čaleta (2007); Kottelat and Freyhof (2007); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Dumbović et al. (2009); Jelić et al. (2009); Kerestessy et al. (2009); Sofradžija (2009); Jelić et al. (2010); Jelić et al. (2012); Delić et al. (2014a); Čaleta et al. (2015); Piria et al. (2016b); Simonović et al. (2017b)

Remarks: endemic to the Danube drainage

2.4.6. FAMILY: LEUCISCIDAE Bonaparte, 1835

ABRAMIS Cuvier, 1816

34. *Abramis brama* (Linnaeus, 1758)

Names under which the taxon was mentioned: *Abramis brama danubii* Pavlov, 1956

English name: Bream

Croatian name: deverika

Range in Croatia: Danube drainage - middle and lower course of rivers; Adriatic Basin - introduced to the Neretva River drainage

Literature: Heckel and Kner (1858); Brusina (1878); Jurinac (1880); Sebišanović (1880); Mojsisovics (1883); Jurinac (1884); Mojsisovics (1884); Glowacki (1885); Anonymous (1886); Kesterčanek (1886); Seeley (1886); Hefe (1889); Sebišanović (1890); Brusina (1892); Brusina (1893); Dudan (1893); Kišpatić (1893); Glowacki (1896);

Anonymous (1897b); Hirc (1897); Mojsisovics (1897); Medić (1898); RHZZM (1908); Čurčić (1910); Vutskits (1918); Plančić (1920); Plančić (1923b); Anonymous (1925); Anonymous (1931c); Fink (1932a); Trojanović (1934); Maldini (1935a); Anonymous (1946a); Franić (1949); Pešić (1955); Sabioncello (1967); Zobundžija (1968); Sabioncello et al. (1969); Vuković and Ivanović (1971); Ristić (1972a); Vrebac (1972); Klačterka (1979); Mikuska (1979); Bojčić et al. (1982); Veljović (1982); Bauer (1983); Mikuska (1983a); Mikuska (1983b); Delić (1984); Mikuska (1984); Mikuska and Mamić (1984); Vrenk (1984); Mikuska (1985); Tvrtković (1985); Veljović (1985); Habeković et al. (1986); Delić (1989); Habeković et al. (1990); Habeković and Popović (1991); Homen et al. (1991); Martinović et al. (1992); Mrakovčić (1992); Delić (1993); Pažur (1993); Zrnčić (1995); Mihaljević et al. (1996); Mrakovčić et al. (1996b); Leiner (1998a); Majer (1998); Treer et al. (2000a); Zanella et al. (2000); Mustafić (2001); Simonović (2001); Mrakovčić et al. (2002); Bošnjir et al. (2003); Treer et al. (2003a); Jugović (2004); Bošnjir et al. (2005); Jakirčević (2005); Mustafić (2005); Pažur (2005); Bošnjir et al. (2007); Čaleta (2007); Kottelat and Freyhof (2007); Piria (2007); Prpa et al. (2007); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Sevcsik and Erös (2008); Suić et al. (2008); Treer et al. (2008a); Delić et al. (2009); Dumbović et al. (2009); Jelić et al. (2009); Kerestessy et al. (2009); Sofradžija (2009); Treer et al. (2009); Jelić et al. (2010); Jelkić et al. (2010); Ozimec et al. (2010); Bartulović et al. (2011); Matulić et al. (2011); Piria et al. (2011b); Jelić et al. (2012); Glamuzina et al. (2013); Jelkić and Opačak (2013); Safner et al. (2013); Zrnčić et al. (2013); Delić et al. (2014a); Nedić et al. (2014a); Nedić et al. (2014b); Riđanović et al. (2014); Dulčić and Tutman (2015); Piria et al. (2016b); Piria et al. (2016c); Pofuk et al. (2017); Simonović et al. (2017b); Nedić et al. (2018)

Remarks: non-native in the Neretva River drainage

ALBURNOIDES Jetteles, 1861

35. *Alburnoides bipunctatus* (Bloch, 1782)

Names under which the taxon was mentioned: *Alburnus bipunctatus* (Bloch, 1782)

English name: Schneider, Spirlin

Croatian name: dvoprugasta uklija

Range in Croatia: Danube drainage - upper and middle course of rivers

Literature: Heckel and Kner (1858); Steindachner (1866b); Sebišanović (1880); Jurinac (1881); Jurinac (1884); Glowacki (1885); Anonymous (1886); Seeley (1886); Mojsisovics (1889); Sebišanović (1889a); Sebišanović (1890); Dudan (1893); Kišpatić (1893); Glowacki (1896); Hirc (1897); Hirc (1898); Medić (1901b); Langhoffer (1904); RHZZM (1908); Lang (1911); Vutskits (1918); Maldini (1935a); Sabioncello (1967); Vuković and Ivanović (1971); Klačterka (1979); Mikuska (1979); Sofradžija

and Hadžiselimović (1981); Bojčić et al. (1982); Mikuska (1983b); Tvrtković (1985); Lelek (1987); Habeković and Popović (1991); Mrakovčić (1992); Mrakovčić et al. (1996b); Habeković et al. (1997); Honsig-Erlenburg et al. (1997); Povž et al. (1998); Treer et al. (2000b); Mustafić (2001); Delić et al. (2003a); Domitrović et al. (2004); Jugović (2004); Piria et al. (2004); Mustafić (2005); Piria et al. (2005b); Sallai and Kontos (2005); Mrakovčić et al. (2006); Treer et al. (2006); Čaleta (2007); Ivelić et al. (2007); Kottelat and Freyhof (2007); Piria (2007); Prpa et al. (2007); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Treer et al. (2008a); Zanella et al. (2008b); Delić et al. (2009); Dumbović et al. (2009); Jelić et al. (2009); Kerestessy et al. (2009); Sofradžija (2009); Treer et al. (2009); Bučar et al. (2010); Buj (2010c); Jelić et al. (2010); Perović and Tvrtković (2010); Ištók (2011); Jelić et al. (2012); Delić et al. (2014a); Stierandová et al. (2016); Simonović et al. (2017b)

Remarks: probably complex of several species, Croatian freshwaters are likely inhabited by yet undescribed species (Stierandová et al. 2016)

ALBURNUS Rafinesque, 1820

36. *Alburnus alburnus* (Linnaeus, 1758)

Names under which the taxon was mentioned: *Abramis alburnus* (Linnaeus, 1758); *Alburnus alburnus alburnus* (Linnaeus, 1758); *Abramis lucidus* (Heckel, 1843); *Alburnus lucidus* Heckel, 1843;

English name: Bleak

Croatian name: obična uklija

Range in Croatia: Danube drainage - middle and lower course of rivers; Adriatic Basin - introduced to the Lika River system

Literature: Heckel and Kner (1858); Brusina (1878); Jurinac (1880); Sebišanović (1880); Sebišanović (1881); Jurinac (1884); Glowacki (1885); Anonymous (1886); Jurinac (1887); Hefele (1889); Mojsisovics (1889); Sebišanović (1889a); Sebišanović (1890); Brusina (1892); Brusina (1893); Dudan (1893); Kišpatić (1893); Glowacki (1896); Hirc (1896); Medić (1901b); Langhoffer (1904); RHZZM (1908); Čurčić (1910); Hirc (1911); Lang (1911); Vutskits (1918); Plančić (1923b); Maldini (1935a); Rotarides (1944); Sabioncello (1967); Zobundžija (1968); Vuković and Ivanović (1971); Čanadjija (1977); Klačterka (1979); Mikuska (1979); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Mikuska (1983a); Mikuska (1983b); Mikuska and Mamić (1984); Mikuska (1985); Tvrtković (1985); Bianco (1986); Habeković et al. (1986); Lelek (1987); Delić (1989); Habeković et al. (1990); Habeković and Popović (1991); Homen et al. (1991); Mrakovčić (1992); Delić (1993); Mrakovčić et al. (1996b); Habeković et al. (1997); Leiner (1998a); Majer (1998); Povž et al. (1998); Treer et al. (1998); Zanella et al. (2000); Jakovlić and Treer (2001); Mustafić (2001); Simonović (2001);

Mrakovčić et al. (2002); Pizzul et al. (2002); Bakota et al. (2003); Delić et al. (2003a); Leiner (2003); Domitrović et al. (2004); Jugović (2004); Piria et al. (2004); Jakirčević (2005); Mustafić (2005); Piria et al. (2005b); Treer et al. (2006); Čaleta (2007); Ivelić et al. (2007); Kottelat and Freyhof (2007); Piria (2007); Prpa et al. (2007); Sallai and Mrakovčić (2007); Polačik et al. (2008); Sallai and Kontos (2008); Sevcsik and Erös (2008); Treer et al. (2008a); Delić et al. (2009); Dumbović et al. (2009); Jelić et al. (2009); Kerestessy et al. (2009); Sofradžija (2009); Treer et al. (2009); Zrnčić et al. (2009a); Bučar et al. (2010); Jelić et al. (2010); Jelkić et al. (2010); Ozimec et al. (2010); Vardić Smrzlić (2010); Matulić et al. (2011); Piria et al. (2011b); Jelić et al. (2012); Jelkić and Opačak (2013); Safner et al. (2013); Zrnčić et al. (2013); Delić et al. (2014a); Nedić et al. (2014a); Nedić et al. (2014b); Riđanović et al. (2014); Žutinić et al. (2014); Jelić et al. (2016); Kolarević et al. (2016); Pofuk et al. (2017); Simonović et al. (2017b); Nedić et al. (2018); Zuliani et al. (2019)

Remarks: non-native in the Lika River system

37. *Alburnus arborella* (Bonaparte, 1841)

Names under which the taxon was mentioned: *Alburnus albidus* (Costa, 1838); *Alburnus albidus alborella* (De Filippi, 1844); *Alburnus alburnus* (Linnaeus, 1758); *Alburnus alburnus alborella* (De Filippi, 1844); *Alburnus alborella* (De Filippi, 1844)

English name: Alborella

Croatian name: primorska uklija

Range in Croatia: Adriatic Basin - rivers on the Istrian Peninsula, Zrmanja River drainage, introduced to Ričica River and reservoirs in the Lika region

Literature: Heckel and Kner (1858); Dybowski (1862); Brusina (1878); Faber (1883); Kolombatović (1886a); Kolombatović (1886b); Kišpatić (1893); Largaiolli (1904); Karaman (1923b); Gridelli (1936); Anonymous (1967); Sabioncello (1967); Vuković and Ivanović (1971); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Leiner (1984); Leiner (1985); Lelek (1987); Povž et al. (1990); Leiner and Povž (1993); Leiner and Povž (1994); Leiner et al. (1995); Mrakovčić et al. (1995); Crivelli (1996); Schneider (1998); Mrakovčić et al. (2000b); Zerunian (2004); Piria et al. (2005b); Mrakovčić et al. (2006); Kottelat and Freyhof (2007); Buj et al. (2010); Miočić-Stošić and Kovačević (2013); Bianco (2014a); Bianco (2014b); Jelić et al. (2016); Jelić and Krivek (2017)

Remarks: introduced from the Zrmanja River to the Ričica River in the Lika region due to pumping of water for the Velebit pumped-storage hydro power plant; reports for the Krka River not confirmed

38. *Alburnus neretvae* Buj, Šanda & Perea, 2010

Names under which the taxon was mentioned: *Alburnus*

albidus (Costa, 1838); *Alburnus albidus alborella* (De Filippi, 1844); *Alburnus alborella* (De Filippi, 1844); *Alburnus alburnellus* (Martens, 1857); *Alburnus alburnus alborella* (De Filippi, 1844); *Alburnus arborella* (Bonaparte, 1841)

English name: Neretva bleak

Croatian name: neretvanska uklija

Range in Croatia: Adriatic Basin - Neretva River drainage, Matica River near Vrgorac and Baćinska Lakes

Literature: Faber (1883); Katuri (1883); Kolombatović (1886a); Kolombatović (1886b); Seeley (1886); Kolombatović (1888); Katuri (1896a); Kolombatović (1907); Vuković (1961); Kolaković (1972); Mrakovčić et al. (1995); Leiner (1998b); Tvrtković (1998); Nocita and Vanni (1999); Mrakovčić et al. (2000a); Mikavica et al. (2001); Aprahamian (2003); Kottelat and Freyhof (2007); Sofradžija (2009); Buj et al. (2010); Glamuzina et al. (2010b); Glamuzina et al. (2013); Čaleta et al. (2015)

Remarks: endemic to the Adriatic Basin

39. *Alburnus sava* Bogutskaya, Zupančič, Jelić, Diripasko & Naseka, 2017

Names under which the taxon was mentioned: *Alburnus mento* (Heckel, 1837); *Alburnus sarmaticus* Freyhof & Kottelat, 2007; *Chalcalburnus chalcoides* (Güldenstädt, 1772); *Chalcalburnus chalcoides danubicus* (Antipa, 1909); *Chalcalburnus chalcoides mento* (Agassiz, 1832)

English name: Sava bleak

Croatian name: velika pliska

Range in Croatia: Danube drainage – Kupa, Mrežnica and Sava Rivers

Literature: Anonymous (1886); Sebišanović (1890); Dudan (1893); Kišpatić (1893); Glowacki (1896); Hirc (1897); Čurčić (1910); Vutskits (1918); Maldini (1935a); Sabioncello (1967); Vuković and Ivanović (1971); Bojčić et al. (1982); Veljović (1982); Mrakovčić et al. (1996b); Honsig-Erlenburg et al. (1997); Povž et al. (1998); Mustafić (2001); Jakirčević (2005); Mrakovčić et al. (2006); Kottelat and Freyhof (2007); Sofradžija (2009); Buj (2010b); Jelić et al. (2012); Bogutskaya et al. (2017); Simonović et al. (2017b); Vucić et al. (2017)

Remarks: endemic to the Danube drainage

BALLERUS Heckel, 1843

40. *Ballerus ballerus* (Linnaeus, 1758)

Names under which the taxon was mentioned: *Abramis ballerus* (Linnaeus, 1758)

English name: Blue bream

Croatian name: kosalj

Range in Croatia: Danube drainage - middle and lower course of the rivers

Literature: Sebišanović (1881); Mojsisovics (1883); Glowacki (1885); Anonymous (1886); Kesterčanek (1886); Seeley (1886); Brusina (1893); Dudan (1893); Kišpatić (1893); Glowacki (1896); Hirc (1897); Medić (1898); Medić (1902); RHZZM (1908); Čurčić (1910); Vutskits (1918); Plančić (1923b); Juzbašić (1928); Fink (1932b); Trojanović (1934); Maldini (1935a); Maldini (1937); Sabioncello (1967); Zobundžija (1968); Vuković and Ivanović (1971); Čanadjija (1977); Klačterka (1979); Mikuska (1979); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Veljović (1982); Mikuska (1983a); Mikuska (1983b); Delić (1984); Mikuska (1984); Mikuska and Mamić (1984); Vrenk (1984); Mikuska (1985); Veljović (1985); Lelek (1987); Homen et al. (1991); Harka (1992); Mrakovčić (1992); Mrakovčić et al. (1996b); Majer (1998); Zanella et al. (2000); Mustafić (2001); Simonović (2001); Mrakovčić et al. (2002); Bakota et al. (2003); Jugović (2004); Jakirčević (2005); Mustafić (2005); Mrakovčić et al. (2006); Čaleta (2007); Kottelat and Freyhof (2007); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Sofradžija (2009); Treer et al. (2009); Ozimec et al. (2010); Jelić et al. (2012); Jelkić and Opačak (2013); Simonović et al. (2017b)

41. *Ballerus sapa* (Pallas, 1814)

Names under which the taxon was mentioned: *Abramis sapa* (Pallas, 1814)

English name: White-eye bream

Croatian name: crnooka deverika

Range in Croatia: Danube drainage - middle and lower course of rivers

Literature: Heckel and Kner (1858); Glowacki (1885); Anonymous (1886); Kesterčanek (1886); Seeley (1886); Brusina (1893); Dudan (1893); Kišpatić (1893); Glowacki (1896); Mojsisovics (1897); RHZZM (1908); Čurčić (1910); Vutskits (1918); Plančić (1923b); Anonymous (1925); Pešić (1955); Sabioncello (1967); Vuković and Ivanović (1971); Klačterka (1979); Mikuska (1979); Bojčić et al. (1982); Veljović (1982); Mikuska (1983a); Mikuska (1983b); Mikuska and Mamić (1984); Vrenk (1984); Mikuska (1985); Veljović (1985); Lelek (1987); Homen et al. (1991); Mrakovčić et al. (1996b); Leiner (1998a); Majer (1998); Mustafić (2001); Simonović (2001); Leiner (2003); Jakirčević (2005); Mustafić (2005); Mrakovčić et al. (2006); Čaleta (2007); Kottelat and Freyhof (2007); Prpa et al. (2007); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Treer et al. (2008a); Sofradžija (2009); Treer et al. (2009); Ozimec et al. (2010); Jelić et al. (2012); Jelkić and Opačak (2013); Piria et al. (2016a); Simonović et al. (2017b); Nedić et al. (2018)

BLICCA Heckel, 1843

42. *Blicca bjoerkna* (Linnaeus, 1758)

Names under which the taxon was mentioned: *Abramis bjoerkna* (Linnaeus, 1758); *Abramis blicca* (Bloch, 1782);

Blicca argyroleuca Heckel, 1843

English name: White bream

Croatian name: krupatica

Range in Croatia: Danube drainage - middle and lower course of rivers

Literature: Brusina (1878); Jurinac (1880); Sebišanović (1880); Mojsisovics (1883); Jurinac (1884); Glowacki (1885); Anonymous (1886); Jurinac (1887); Hefe (1889); Mojsisovics (1889); Sebišanović (1890); Brusina (1892); Brusina (1893); Kišpatić (1893); Glowacki (1896); Mojsisovics (1897); Medić (1898); Čurčić (1910); Vutskits (1918); Maldini (1935b); Pešić (1955); Sabioncello (1967); Vuković and Ivanović (1971); Klačterka (1979); Mikuska (1979); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Veljović (1982); Mikuska (1983a); Mikuska (1983b); Delić (1984); Mikuska (1984); Mikuska and Mamić (1984); Delić (1985); Mikuska (1985); Tvrtković (1985); Veljović (1985); Habeković et al. (1986); Lelek (1987); Homen et al. (1991); Mrakovčić (1992); Delić (1993); Mrakovčić et al. (1996b); Leiner (1998a); Majer (1998); Zanella et al. (2000); Mustafić (2001); Mrakovčić et al. (2002); Bakota et al. (2003); Jugović (2004); Jakirčević (2005); Mustafić (2005); Čaleta (2007); Kottelat and Freyhof (2007); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Sevcsik and Erös (2008); Delić et al. (2009); Dumbović et al. (2009); Jelić et al. (2009); Kerestessy et al. (2009); Sofradžija (2009); Treer et al. (2009); Jelić et al. (2010); Jelkić et al. (2010); Ozimec et al. (2010); Vardić Smrzlić (2010); Matulić et al. (2011); Jelić et al. (2012); Piria et al. (2016a); Simonović et al. (2017b); Nedić et al. (2018)

CHONDROSTOMA Agassiz, 1832

43. *Chondrostoma knerii* Heckel, 1843

Names under which the taxon was mentioned: *Chondrostoma kneri* Heckel, 1843; *Chondrostomum kneri* Heckel, 1843

English name: Dalmatian nase

Croatian name: podustva

Range in Croatia: Adriatic Basin - Neretva River drainage and Baćinska Lakes

Literature: Heckel (1843); Bonaparte (1845); Bonaparte (1846); Carrara (1846); Heckel (1852); Heckel and Kner (1858); Dybowski (1862); Canestrini (1866); Canestrini (1874); Brusina (1878); Giglioli (1880); Faber (1883); Katuri (1883); Kolombatović (1886a); Kolombatović (1886b); Seeley (1886); Kolombatović (1888); Botteri (1891); Dudan (1893); Kišpatić (1893); Hamann (1896); Katuri (1896a); Petermann (1899); Langhoffer (1901); Katuri (1907); Kolombatović (1907); Brusina (1908); Karaman (1923b); Basioli (1952); Basioli (1958a); Vuković (1961); Vuković (1963); Sabioncello (1967); Kolaković (1972); Vuković and Ivanović (1971); Vuković and Kosorić (1978); Klačterka (1979); Sofradžija and Hadžiselimović

(1981); Bojčić et al. (1982); Povž (1983); Bianco (1986); Elvira (1987); Economidis and Bănărescu (1991); Mrakovčić et al. (1995); Crivelli (1996); Elvira (1997); Kottelat (1997); Leiner (1998b); Mrakovčić (1998); Schneider (1998); Tvrtković (1998); Nocita and Vanni (1999); Mikavica et al. (2001); Aprahamian (2003); Mrakovčić et al. (2006); Glamuzina (2007); Kottelat and Freyhof (2007); Jelić et al. (2008); Muhamedagić et al. (2008); Tutman et al. (2008b); Glamuzina et al. (2010b); Freyhof (2012); Glamuzina et al. (2013); Čaleta et al. (2015)

Remarks: endemic to the Neretva River drainage and to Adriatic Basin

44. *Chondrostoma nasus* (Linnaeus, 1758)

Names under which the taxon was mentioned: *Chondrostoma nasus nasus* (Linnaeus, 1758)

English name: Common nase

Croatian name: podust

Range in Croatia: Danube drainage - middle and lower course of rivers

Literature: Heckel and Kner (1858); Canestrini (1866); Canestrini (1874); Brusina (1878); Jurinac (1880); Sebišanović (1880); Sebišanović (1881); Jurinac (1884); Mojsisovics (1884); Seeley (1886); Botteri (1891); Franke (1892); Brusina (1893); Kišpatić (1893); Hirc (1897); Hirc (1902d); RHZZM (1908); Kempf (1910); Vutskits (1918); Crnić (1923); Anonymous (1925); Bergleitner (1925); Rössler (1931); Maldini (1935c); Taler (1945a); Kosorić (1955); Jagodić (1957); Vuković (1963); Marko et al. (1968); Vuković et al. (1970); Vuković and Ivanović (1971); Vrebac (1972); Čanadjija (1977); Klačterka (1979); Bojčić et al. (1982); Bianco (1986); Economidis and Bănărescu (1991); Habeković (1993); Crivelli (1996); Elvira (1997); Honsig-Erlenburg et al. (1997); Kerovec (1998); Schneider (1998); Miotti (2002); Mrakovčić et al. (2002); Hrbek et al. (2004); Pažur (2005); Mrakovčić et al. (2006); Kottelat and Freyhof (2007); Prpa et al. (2007); Jelić et al. (2008); Čaleta et al. (2009a); Dumbović et al. (2009); Sofradžija (2009); Treer et al. (2009); Tvrtković et al. (2009); Freyhof (2012); Zrnčić et al. (2013); Delić et al. (2014a); Piria et al. (2016b); Simonović et al. (2017b); Nedić et al. (2018)

45. *Chondrostoma phoxinus* Heckel, 1843

English name: Minnow nase

Croatian name: podbila

Range in Croatia: Adriatic Basin - Cetina River drainage and Proložsko Blato Lake

Literature: Carrara (1846); Heckel (1852); Heckel and Kner (1858); Dybowski (1862); Canestrini (1866); Canestrini (1874); Brusina (1878); Giglioli (1880); Faber (1883); Kolombatović (1886a); Seeley (1886); Kolombatović (1888); Botteri (1891); Kišpatić (1893); Karaman (1923a); Karaman (1923b); Koller (1928); Rössler (1931); Taler

(1951g); Taler (1953a); Taler (1953f); Vuković (1963); Marko et al. (1968); Vuković et al. (1970); Vuković and Ivanović (1971); Bojčić et al. (1982); Kottelat (1984); Bianco (1986); Economidis and Bănărescu (1991); Habeković (1993); Crivelli (1996); Elvira (1997); Kerovec (1998); Schneider (1998); Miotti (2002); Hrbek et al. (2004); Mrakovčić et al. (2006); Tvrtković and Veen (2006); Kottelat and Freyhof (2007); Jelić et al. (2008); Valić et al. (2008); Čaleta et al. (2009a); Tvrtković et al. (2009); Sofradžija (2009); Mrakovčić and Čaleta (2011); Freyhof (2012); Čaleta et al. (2015); Pofuk et al. (2017)

Remarks: report for the Vrba River (Krka River drainage) not confirmed; endemic to the Adriatic Basin

DELMINICHTHYS Freyhof, Lieckfeldt, Bogutskaya, Pitra & Ludwig, 2006

46. *Delminichthys adspersus* (Heckel, 1843)

Names under which the taxon was mentioned: *Leuciscus adspersus* (Heckel, 1843); *Leucos adspersus* Heckel, 1843; *Paraphoxinus adspersus* (Heckel, 1843); *Phoxinellus adspersus* (Heckel, 1843); *Phoxinellus scharfetteri*

English name: Spotted minnow

Croatian name: imotska gaovica

Range in Croatia: Adriatic Basin - Neretva and Vrljika River drainage, Proložsko Blato and Bačinska Lakes, lakes near Imotski, Matica River near Vrgorac

Literature: Heckel (1843); Bonaparte (1845); Bonaparte (1846); Carrara (1846); Heckel and Kner (1858); Dybowski (1862); Canestrini (1866); Canestrini (1874); Brusina (1878); Giglioli (1880); Steindachner (1882a); Faber (1883); Katuri (1883); Kolombatović (1886a); Kolombatović (1886b); Seeley (1886); Kolombatović (1888); Brusina (1890); Botteri (1891); Katuri (1896a); Petermann (1899); Trgovčević (1905a); Trgovčević (1905c); Katuri (1907); Kolombatović (1907); Car (1911); Karaman (1923a); Karaman (1923b); Trgovčević (1932); Maldini (1936a); Vraneš (1966); Sabioncello (1967); Bilopavlović (1970); Berberović et al. (1971); Guzina and Vuković (1971); Miladinović et al. (1971); Vuković and Ivanović (1971); Karaman (1972); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Vuković (1982); Bianco (1986); Crivelli (1996); Mrakovčić et al. (1996a); Holčík and Mrakovčić (1997); Kottelat (1997); Leiner (1998b); Schneider (1998); Tvrtković (1998); Nocita and Vanni (1999); Aspacher et al. (2000); Habeković and Pažur (2000); Mrakovčić et al. (2000a); Zupančić and Bogutskaya (2000); Miotti (2002); Tvrtković and Franičević (2002); Zupančić and Bogutskaya (2002); Bogutskaya and Zupančić (2003); Franičević and Tičina (2003); Freyhof et al. (2006); Mrakovčić et al. (2006); Kottelat and Freyhof (2007); Jelić et al. (2008); Šanda et al. (2008); Zupančić (2008); Sofradžija (2009); Glamuzina et al. (2010b); Palandačić et al. (2010); Gabelica et al. (2011); Freyhof (2012); Palandačić (2012a); Palandačić (2012b); Palandačić et al. (2012a); Palandačić

et al. (2012b); Glamuzina et al. (2013); Duplić (2014); Čaleta et al. (2015); Ozimec (2015); Mustafić et al. (2016)

Remarks: reports for the Lika region not confirmed and are likely the result of misidentification; endemic to the Adriatic Basin

47. *Delminichthys ghetaldii* (Steindachner, 1882)

Names under which the taxon was mentioned: *Paraphoxinus ghetaldii* Steindachner, 1882; *Paraphoxinus pstrossii* Steindachner, 1882; *Phoxinellus ghetaldii* (Steindachner, 1882);

English name: Southern Dalmatian minnow

Croatian name: popovska gaovica

Range in Croatia: Adriatic Basin - Ombla River, springs and small creeks in the Konavosko Field

Literature: Kišpatić (1893); Kosić (1903); Trgovčević (1905a); Trgovčević (1905c); Karaman (1923a); Karaman (1923b); Trgovčević (1932); Maldini (1936b); Čurčić (1938); Taler (1953f); Sabioncello (1967); Vuković and Ivanović (1971); Sofradžija and Berberović (1972); Bianco (1986); Mrakovčić and Mišetić (1990a); Mrakovčić et al. (1995); Crivelli (1996); Maitland and Crivelli (1996); Grmek and Balabanić (2000); Tvrtković and Franičević (2002); Zupančič and Bogutskaya (2002); Bogutskaya and Zupančič (2003); Mrakovčić et al. (2006); Tvrtković and Veen (2006); Kottelat and Freyhof (2007); Jelić et al. (2008); Perea et al. (2010); Freyhof (2012); Glamuzina et al. (2013); Čaleta et al. (2015); Jelić and Jelić (2015); Ozimec (2015); Mustafić et al. (2016)

Remarks: reports for the Krka, Vrljika and Neretva Rivers are likely the result of misidentification; endemic to the Trebišnjica River system in Bosnia and Herzegovina and Croatia

48. *Delminichthys jadovensis* (Zupančič & Bogutskaya, 2002)

Names under which the taxon was mentioned: *Leucos adspersus* (Heckel, 1843); *Paraphoxinus adspersus* (Heckel, 1843); *Phoxinellus jadovensis* Zupančič & Bogutskaya, 2002

English name: Jadova minnow

Croatian name: jadovska gaovica

Range in Croatia: Adriatic Basin - Jadova River

Literature: Heckel (1843); Car (1911); Taler (1953a); Zupančič and Bogutskaya (2002); Bogutskaya and Zupančič (2003); Freyhof et al. (2006); Mrakovčić et al. (2006); Kottelat and Freyhof (2007); Duplić (2008); Jelić et al. (2008); Valić et al. (2008); Palandačić et al. (2010); Perea et al. (2010); Popović (2010); Freyhof (2012); Palandačić (2012a); Čaleta et al. (2015); Ozimec (2015); Jelić et al. (2016); Jelić and Krivek (2017); Mustafić et al. (2016)

Remarks: early reports of species of the genera *Paraphoxinus* and *Phoxinellus* in the Lika River system cannot be identified, given the presence of *T. croaticus* and *D. jadovensis* here; stenoendemic to the Jadova River and endemic to the Adriatic Basin and Croatia

49. *Delminichthys krbavensis* (Zupančič & Bogutskaya, 2002)

Names under which the taxon was mentioned: *Paraphoxinus ghetaldi* Steindachner, 1882; *Phoxinellus krbavensis* Zupančič & Bogutskaya, 2002

English name: Krbava minnow

Croatian name: krbavska gaovica

Range in Croatia: Danube drainage - Krbavsko Field

Literature: RHZZM (1908); Trgovčević (1908); Taler (1953a); Vraneš (1966); Zupančič and Bogutskaya (2002); Bogutskaya and Zupančič (2003); Mateš (2004); Freyhof et al. (2006); Mrakovčić et al. (2006); Tvrtković and Veen (2006); Kottelat and Freyhof (2007); Duplić (2008); Jelić et al. (2008); Valić et al. (2008); Palandačić et al. (2010); Perea et al. (2010); Popović (2010); Freyhof (2012); Palandačić (2012a); Palandačić (2012b); Mihinjač et al. (2015b); Čaleta et al. (2015); Ozimec (2015); Jelić et al. (2016); Mustafić et al. (2016)

Remarks: stenoendemic to the Krbavsko Field, endemic to the Danube drainage and Croatia

LEUCASPIUS Heckel & Kner, 1858

50. *Leucaspius delineatus* (Heckel, 1843)

English name: Belica

Croatian name: bjelica

Range in Croatia: Danube drainage - lower course of rivers

Literature: Giglioli (1880); Kolombatović (1886a); Seeley (1886); Kolombatović (1888); Mojsisovics (1897); Vutskits (1918); Sabioncello (1967); Vuković and Ivanović (1971); Čanadžija (1977); Klačterka (1979); Mikuska (1979); Bojčić et al. (1982); Veljović (1982); Mikuska (1983b); Veljović (1985); Lelek (1987); Harka (1992); Mrakovčić (1992); Delić (1993); Mrakovčić et al. (1996b); Nocita and Vanni (1999 (Kerka)); Zanella et al. (2000); Mustafić (2001); Jakirčević (2005); Mrakovčić et al. (2006); Kottelat and Freyhof (2007); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Jelić et al. (2009); Sofradžija (2009); Jelić et al. (2012)

Remarks: a rare species in Croatia that has only been recorded in the Žutica Forest and Ilova River in the past 20 years; some literature reports are likely the result of misidentification; reports in the Krka River (Adriatic Basin) not confirmed and are also likely due to misidentification

LEUCISCUS Cuvier, 1816

51. *Leuciscus aspius* (Linnaeus, 1758)

Names under which the taxon was mentioned: *Aspius aspius* (Linnaeus, 1758); *Aspius rapax* Agassiz, 1835

English name: Asp

Croatian name: bolen

Range in Croatia: Danube drainage - middle and lower course of the rivers

Literature: Heckel and Kner (1858); Jurinac (1880); Sebišanović (1880); Sebišanović (1881); Jurinac (1884); Glowacki (1885); Anonymous (1886); Hefele (1889); Sebišanović (1890); Brusina (1892); Brusina (1893); Dudan (1893); Kišpatić (1893); Glowacki (1896); Hirc (1896); Anonymous (1897b); Hirc (1897); Mojsisovics (1897); Medić (1898); Horvat (1901); Medić (1901b); Šimunčić (1902); RHZZM (1908); Čurčić (1910); Vutskits (1918); Plančić (1923a); Plančić (1923b); Anonymous (1925); Bergleitner (1925); Anonymous (1931c); Trojanović (1934); Anonymous (1935g); Maldini (1935b); Anonymous (1946a); Knop (1947a); Pešić (1955); Jagodić (1957); Sabioncello (1967); Zobundžija (1968); Sabioncello et al. (1969); Vuković and Ivanović (1971); Klačterka (1979); Mikuska (1979); Bojčić et al. (1982); Veljović (1982); Mikuska (1983a); Mikuska (1983b); Mikuska (1984); Vrenk (1984); Tvrtković (1985); Veljović (1985); Lelek (1987); Delić (1989); Homen et al. (1991); Mrakovčić (1992); Delić (1993); Pažur (1993); Mrakovčić et al. (1996b); Leiner (1998a); Majer (1998); Zanella et al. (2000); Mustafić (2001); Mrakovčić et al. (2002); Jakirčević (2005); Mustafić (2005); Pažur (2005); Sallai and Kontos (2005); Mrakovčić et al. (2006); Čaleta (2007); Kottelat and Freyhof (2007); Sallai and Mrakovčić (2007); Mateš (2008); Sallai and Kontos (2008); Sevcsik and Erös (2008); Suić et al. (2008); Dumbović et al. (2009); Jelić et al. (2009); Kerestessy et al. (2009); Sofradžija (2009); Jelić et al. (2010); Jelkić et al. (2010); Ozimec et al. (2010); Tvrtković (2010); Ištók (2011); Matulić et al. (2011); Jelić et al. (2012); Zrnčić et al. (2013); Delić et al. (2014a); Nedić et al. (2014b); Nedić et al. (2014a); Riđanović et al. (2014); Simonović et al. (2017b); Nedić et al. (2018)

52. *Leuciscus idus* (Linnaeus, 1758)

Names under which the taxon was mentioned: *Idus jeses* (Linnaeus, 1758); *Idus melanotus* (Heckel, 1843);

English name: Ide

Croatian name: jez

Range in Croatia: Danube drainage - middle and lower course of rivers

Literature: Jurinac (1880); Sebišanović (1880); Sebišanović (1881); Mojsisovics (1883); Jurinac (1884); Mojsisovics (1884); Glowacki (1885); Anonymous (1886); Seeley (1886); Hefele (1889); Mojsisovics (1889); Sebišanović (1889b); Sebišanović (1890); Brusina (1892); Dudan

(1893); Kišpatić (1893); Glowacki (1896); Hirc (1897); Mojsisovics (1897); Medić (1898); RHZZM (1908); Čurčić (1910); Vutskits (1918); Plančić (1923b); Trojanović (1934); Maldini (1936a); Anonymous (1946a); Franić (1949); Glavan (1952); Jagodić (1957); Sabioncello (1967); Sabioncello et al. (1969); Vuković and Ivanović (1971); Munjko (1975); Mikuska (1979); Klačterka (1979); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Veljović (1982); Bauer (1983); Mikuska (1983a); Mikuska (1983b); Delić (1984); Mikuska (1984); Mikuska and Mamić (1984); Vrenk (1984); Mikuska (1985); Tvrtković (1985); Veljović (1985); Lelek (1987); Habeković and Popović (1991); Homen et al. (1991); Mrakovčić (1992); Pažur (1993); Mihaljević et al. (1996); Mrakovčić et al. (1996b); Leiner (1998a); Majer (1998); Zanella et al. (2000); Mustafić (2001); Mrakovčić et al. (2002); Bakota et al. (2003); Jugović (2004); Jakirčević (2005); Mustafić (2005); Pažur (2005); Mrakovčić et al. (2006); Čaleta (2007); Kottelat and Freyhof (2007); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Suić et al. (2008); Treer et al. (2008a); Dumbović et al. (2009); Sofradžija (2009); Treer et al. (2009); Jelić et al. (2010); Jelkić et al. (2010); Ozimec et al. (2010); Matulić et al. (2011); Jelić et al. (2012); Zrnčić et al. (2013); Delić et al. (2014a); Simonović et al. (2017b)

53. *Leuciscus leuciscus* (Linnaeus, 1758)

Names under which the taxon was mentioned: *Leuciscus dobula* (Linnaeus, 1758); *Leuciscus vulgaris* Fleming, 1828; *Squalius lepusculus* Heckel, 1852; *Squalius leuciscus* Fatio, 1882

English name: Common dace

Croatian name: klenić

Range in Croatia: Danube drainage - middle and lower course of rivers

Literature: Heckel and Kner (1858); Šloser (1870); Jurinac (1881); Jurinac (1884); Glowacki (1885); Anonymous (1886); Mojsisovics (1887); Hefele (1889); Sebišanović (1890); Brusina (1892); Brusina (1893); Dudan (1893); Kišpatić (1893); Glowacki (1896); RHZZM (1908); Hirc (1911); Vutskits (1918); Anonymous (1925); Maldini (1936a); Sabioncello (1967); Pažur (1969c); Pažur (1969b); Vuković and Ivanović (1971); Mikuska (1979); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Veljović (1982); Mikuska (1983b); Vrenk (1984); Veljović (1985); Habeković et al. (1986); Lelek (1987); Delić (1989); Mrakovčić (1992); Delić (1993); Mrakovčić et al. (1996b); Habeković et al. (1997); Majer (1998); Treer et al. (1998); Zanella et al. (2000); Mustafić (2001); Delić et al. (2003a); Jugović (2004); Bošnjir et al. (2005); Jakirčević (2005); Mustafić (2005); Bošnjir et al. (2007); Kottelat and Freyhof (2007); Prpa et al. (2007); Piria (2007); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Delić et al. (2009); Jelić et al. (2009); Kerestessy et al. (2009); Sofradžija (2009); Treer et al. (2009); Zrnčić et al. (2009a); Bučar et al. (2010); Jelić

et al. (2010); Ozimec et al. (2010); Jelić et al. (2012); Piria et al. (2016a); Pofuk et al. (2017)

Remarks: report on the introduction to the Kruščica Reservoir not confirmed

PELECUS Agassiz, 1836

54. *Pelecus cultratus* (Linnaeus, 1758)

English name: Ziege

Croatian name: sabljarka

Range in Croatia: Danube drainage - lower course of rivers

Literature: Heckel and Kner (1858); Brusina (1878); Sebišanović (1880); Mojsisovics (1883); Glowacki (1885); Anonymous (1886); Kesterčanek (1886); Seeley (1886); Jurinac (1887); Hefele (1889); Brusina (1892); Brusina (1893); Dudan (1893); Kišpatić (1893); Mojsisovics (1884); Glowacki (1896); Hirc (1897); Mojsisovics (1897); Medić (1902); RHZZM (1908); Čurčić (1910); Vutskits (1918); Maldini (1936b); Pešić (1955); Sabioncello (1967); Vuković and Ivanović (1971); Klačterka (1979); Mikuska (1979); Bojčić et al. (1982); Veljović (1982); Mikuska (1983a); Mikuska (1983b); Mikuska (1984); Veljović (1985); Lelek (1987); Homen et al. (1991); Mrakovčić et al. (1996b); Majer (1998); Mustafić (2001); Jakirčević (2005); Mustafić (2005); Mrakovčić et al. (2006); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Sofradžija (2009); Ozimec et al. (2010); Jelić et al. (2012)

PHOXINELLUS Heckel, 1843

55. *Phoxinellus alepidotus* Heckel, 1843

Names under which the taxon was mentioned: *Leucos adpersus* Heckel, 1843; *Paraphoxinus alepidotus* (Heckel, 1843)

English name: Dinaric minnow

Croatian name: dinarska pijurica

Range in Croatia: Adriatic Basin - Cetina River drainage

Literature: Carrara (1846); Heckel and Kner (1858); Dybowski (1862); Bleeker (1863); Canestrini (1866); Brusina (1872); Canestrini (1874); Brusina (1878); Steindachner (1882a); Faber (1883); Katuri (1883); Kolombatović (1886a); Kolombatović (1886b); Seeley (1886); Kolombatović (1888); Brusina (1890); Katuri (1896a); Petermann (1899); Trgovčević (1905a); Brusina (1907); Katuri (1907); Car (1911); Karaman (1923b); Koller (1928); Anonymous (1953a); Taler (1953a); Taler (1953f); Pešić (1961); Sabioncello (1967); Vuković et al. (1970); Trewavas (1971); Vuković and Ivanović (1971); Sofradžija and Berberović (1972); Vuković (1977); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Kottelat (1984); Howes (1985); Bianco (1986); Povž et al. (1990); Crivelli (1996); Kottelat (1997); Leiner (1998b); Tvrtković (1998); Nocita and Vanni (1999 (Neretva i Cetina)); Zupančič and Bogutskaya (2000); Zupančič and Bogutskaya (2002);

Bogutskaya and Zupančič (2003); Mrakovčić et al. (2006); Tvrtković and Veen (2006); Jelić et al. (2008); Tvrtković et al. (2009); Sofradžija (2009); Mrakovčić and Čaleta (2011); Čaleta et al. (2015); Landeka et al. (2015); Ozimec (2015)

Remarks: reports for the Neretva River drainage not confirmed and are likely the result of misidentification; endemic to the Adriatic Basin

56. *Phoxinellus dalmaticus* Zupančič & Bogutskaya, 2000

Names under which the taxon was mentioned: *Paraphoxinus adpersus* (Heckel, 1843)

English name: Dalmatian minnow

Croatian name: dalmatinska pijurica

Range in Croatia: Adriatic Basin – Čikola River (Krka River drainage)

Literature: Brusina (1890); Basioli (1958b); Zupančič and Bogutskaya (2000); Miotti (2002); Zupančič and Bogutskaya (2002); Bogutskaya and Zupančič (2003); Hrbek et al. (2004); Freyhof et al. (2006); Mrakovčić et al. (2006); Tvrtković and Veen (2006); Kottelat and Freyhof (2007); Duplić (2008); Jelić et al. (2008); Palandačić et al. (2010); Perea et al. (2010); Popović (2010); Freyhof (2012); Palandačić (2012a); Čaleta et al. (2015); Landeka et al. (2015); Ozimec (2015)

Remarks: stenoendemic to the Čikola River drainage and endemic to the Adriatic Basin and Croatia

PHOXINUS Rafinesque, 1820

57. *Phoxinus lumaireul* Schinz, 1840

Names under which the taxon was mentioned: *Leuciscus phoxinus* (Linnaeus, 1758); *Phoxinellus alepidotus* Heckel, 1843; 2015 *Phoxinus aphyia* (Linnaeus, 1758); *Phoxinus ketmaieri* Bianco & De Bonis, 2015; *Phoxinus laevis* Fitzinger, 1832; *Phoxinus likai* Bianco & De Bonis, *Phoxinus marsilii* Heckel, 1836

English name: Italian minnow

Croatian name: pijor

Range in Croatia: Danube drainage – upper course of rivers; Adriatic Basin - Krk Island, Lika region, Zrmanja River, Krka River

Literature: Carrara (1846); Heckel and Kner (1858); Steindachner (1866a); Steindachner (1866b); Katuri (1883); Glowacki (1885); Kesterčanek (1886); Kolombatović (1886a); Kolombatović (1886b); Seeley (1886); Katuri (1887); Kolombatović (1888); Sebišanović (1890); Botteri (1891); Hirc (1891); Brusina (1892); Kišpatić (1893); Anonymous (1894f); Glowacki (1896); Hirc (1896); Katuri (1896a); Katuri (1896c); Hirc (1897); Hirc (1898); Hirc (1899c); Hirc (1900a); Talpaš (1901); Langhoffer (1904); Katuri (1907); Kolombatović (1907); RHZZM (1908); Trgovčević (1908); Hirc (1911); Vutskits

(1918); Karaman (1923b); Bergleitner (1925); Bergleitner (1928); Bergleitner (1929); Rössler (1929a); Rössler (1929b); Rössler (1930); Rössler (1931); Rössler (1932); Gridelli (1936); Maldini (1936b); Lovrić (1938); Plančić (1938); Anonymous (1945); Bergleitner (1946); Karaman (1952); Taler (1953b); Plančić (1956b); Stepanek (1956); Bogdanović (1957); Taler (1958); Bogdanović (1959); Sabioncello (1967); Pažur (1969b); Pažur (1969c); Pažur (1970); Vuković and Ivanović (1971); Čanadjija (1977); Klačterka (1979); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Leiner (1985); Tvrtković (1985); Bianco (1986); Lelek (1987); Mrakovčić et al. (1989); Fašaić et al. (1990); Delić (1993); Leiner and Povž (1993); Leiner and Povž (1994); Leiner et al. (1995); Mrakovčić et al. (1995); Mrakovčić et al. (1996b); Honsig-Erlenburg et al. (1997); Leiner (1998b); Povž et al. (1998); Leiner (1999); Mrakovčić et al. (2000b); Mikavica et al. (2001); Mustafić (2001); Delić et al. (2003a); Jugović (2004); Mateš (2004); Kottelat and Freyhof (2007); Prpa et al. (2007); Sallai and Mrakovčić (2007); Jalžić et al. (2008); Muhamedagić et al. (2008); Sallai and Kontos (2008); Treer et al. (2008a); Delić et al. (2009); Dumbović et al. (2009); Kerestessy et al. (2009); Sofradžija (2009); Treer et al. (2009); Bučar et al. (2010); Buj (2010c); Jelić et al. (2010); Perović and Tvrtković (2010); Trgovčić (2010); Jelić et al. (2012); Marčić et al. (2012); Miočić-Stošić and Kovačević (2013); Bianco (2014a); Delić et al. (2014a); Bianco and De Bonis (2015); Palandačić et al. (2015); Jelić et al. (2016); Palandačić et al. (2017); Vucić et al. (2018)

Remarks: dominant species of minnow in Croatia, all reports of *Phoxinus phoxinus* are in fact *P. lumaireul*. Recent reports (Bianco & De Bonis, 2015; Palandačić et al., 2015) indicate the presence of more than two species (multispecies concept) of the genus *Phoxinus* in Croatia, though their precise distribution and taxonomic classification are still unclear. In addition to *Phoxinus lumaireul*, there are reports of *Phoxinus karsticus* and *Phoxinus sp.* in Croatia.

58. *Phoxinus marsilii* Heckel 1836

Names under which the taxon was mentioned: *Phoxinus phoxinus* (Linnaeus 1758)

English name: Marsili's minnow

Croatian name: Marsilijev pijor

Range in Croatia: Danube drainage - streams on Mt. Papuk in the Drava River system

Literature: Palandačić et al. (2017); Vucić et al. (2018)

Remarks: this species has only recently been reported for the first time in Croatia; however, its presence and distribution range have not yet been clarified.

RUTILUS Rafinesque, 1820

59. *Rutilus aula* (Bonaparte, 1841)

Names under which the taxon was mentioned: *Gordonus aula*; *Leuciscus aula* (Bonaparte, 1841); *Leuciscus rubella* Bonaparte, 1837; *Leuciscus rutilus* (Linnaeus, 1758); *Leucos rubella* Heckel, 1843; *Leucos rubelliscus* Bonaparte, 1845; *Rutilus rubilio* (Bonaparte, 1837)

English name: Adriatic roach

Croatian name: masnica

Range in Croatia: Adriatic Basin - rivers of the Istrian Peninsula and small watercourses near Zadar and Nin

Literature: Heckel (1843); Bonaparte (1845); Bonaparte (1846); Carrara (1846); Heckel and Kner (1858); Dybowski (1862); Canestrini (1874); Faber (1883); Katuri (1883); Kolombatović (1886b); Kolombatović (1888); Seeley (1886); Botteri (1891); Katuri (1896d); Langhoffer (1904); Largaiolli (1904); Katuri (1907); Car (1911); Karaman (1923b); Koller (1928); Gridelli (1936); Maldini (1936a); Taler (1953a); Treer et al. (1984); Leiner (1985); Treer (1989); Povž et al. (1990); Leiner and Povž (1993); Leiner and Povž (1994); Leiner et al. (1995); Kottelat (1997); Freyhof et al. (2006); Mrakovčić et al. (2006); Kottelat and Freyhof (2007); Jelić et al. (2008); Treer et al. (2008a); Perea et al. (2010); Čaleta et al. (2015); Piria et al. (2016b); Piria et al. (2016c)

Remarks: reports for Vransko Lake near Biograd, Tribalj Reservoir near Novi Vinodolski not confirmed and are likely due to misidentification; endemic to the Adriatic Basin

60. *Rutilus basak* (Heckel, 1843)

Names under which the taxon was mentioned: *Leuciscus basak* Heckel & Kner 1858; *Leuciscus rubella* Bonaparte, 1837; *Leucos aula* Heckel, 1843; *Leucos rubella* Heckel, 1843; *Rutilus basak* (Heckel, 1843); *Rutilus pigus* (Lacepède, 1803); *Rutilus rubilio* (Bonaparte, 1837)

English name: Neretva roach

Croatian name: basak

Range in Croatia: Adriatic Basin - Neretva and Vrljika River drainages, Proložko Bato and Baćinska Lakes, Matica River near Vrgorac

Literature: Heckel (1843); Bonaparte (1845); Bonaparte (1846); Heckel and Kner (1858); Dybowski (1862); Canestrini (1866); Giglioli (1880); Faber (1883); Katuri (1883); Kolombatović (1886a); Kolombatović (1886b); Kolombatović (1888); Botteri (1891); Katuri (1896a); Katuri (1907); Brusina (1908); Car (1911); Karaman (1923b); Maldini (1936a); Čurčić (1938); Basioli (1957a); Vuković and Vuković (1968); Vuković and Ivanović (1971); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Bianco and Taraborelli (1985); Bianco (1986); Lelek (1987); Economidis and Bănărescu (1991); Habeković

(1993); Mrakovčić et al. (1995); Crivelli (1996); Mrakovčić et al. (1996a); Holčík and Mrakovčić (1997); Kottelat (1997); Leiner (1998b); Tvrtković (1998); Nocita and Vanni (1999); Habeković and Pažur (2000); Mrakovčić et al. (2000a); Mikavica et al. (2001); Tutman et al. (2002); Mrakovčić et al. (2006); Kottelat and Freyhof (2007); Prpa et al. (2007); Jelić et al. (2008); Ketmaier et al. (2008); Muhamedagić et al. (2008); Šanda et al. (2008); Sofradžija (2009); Glamuzina et al. (2010b); Marić (2010); Popović (2010); Glamuzina et al. (2013); Duplić (2014); Čaleta et al. (2015); Piria et al. (2016b); Piria et al. (2016c)

Remarks: reports for the Cetina and Ruda River not confirmed and are likely the result of misidentification; endemic to the Adriatic Basin

61. *Rutilus rutilus* (Linnaeus, 1758)

Names under which the taxon was mentioned: 1836; *Leuciscus rutilus* (Linnaeus, 1758); *Rutilus aula* (Bonaparte, 1841); *Rutilus rubilio* (Bonaparte, 1837); *Rutilus rutilus carpathorossicus* Vladykov, 1930

English name: Roach

Croatian name: bodorka

Range in Croatia: Danube drainage - middle and lower course of rivers; Adriatic Basin -introduced to Cetina and Lika River drainages, Gacka River, Butoniga and Tribalj reservoirs

Literature: Heckel and Kner (1858); Brusina (1878); Jurinac (1880); Sebišanović (1880); Jurinac (1881); Sebišanović (1881); Mojsisovics (1883); Jurinac (1884); Glowacki (1885); Anonymous (1886); Kesterčanek (1886); Seeley (1886); Jurinac (1887); Hefele (1889); Mojsisovics (1889); Sebišanović (1890); Brusina (1892); Brusina (1893); Dudan (1893); Kišpatić (1893); Glowacki (1896); Hirc (1897); Medić (1898); RHZZM (1908); Čurčić (1910); Vutskits (1918); Plančić (1923b); Trojanović (1934); Maldini (1936a); Sabioncello (1967); Pažur (1968a); Zobundžija (1968); Vuković and Aganović (1971); Vuković and Ivanović (1971); Munjko (1975); Klačterka (1979); Mikuska (1979); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Veljović (1982); Mikuska (1983a); Mikuska (1983b); Delić (1984); Mikuska (1984); Mikuska and Mamić (1984); Ocvirk (1984); Delić (1985); Mikuska (1985); Tvrtković (1985); Veljović (1985); Habeković et al. (1986); Habeković et al. (1990); Habeković and Popović (1991); Homen et al. (1991); Mrakovčić (1992); Povž (1995); Mihaljević et al. (1996); Mrakovčić et al. (1996b); Habeković et al. (1997); Leiner (1998a); Majer (1998); Povž et al. (1998); Treer et al. (1998); Leiner (1999); Zanella et al. (2000); Jakovlić and Treer (2001); Mustafić (2001); Šprem et al. (2001); Mrakovčić et al. (2002); Bakota et al. (2003); Bošnjir et al. (2003); Leiner (2003); Jugović (2004); Bošnjir et al. (2005); Jakirčević (2005); Mustafić (2005); Suić (2005); Dulčić and Glamuzina (2006); Bošnjir et al. (2007); Čaleta (2007); Knežević (2007); Kottelat and Freyhof (2007); Piria (2007);

Prpa et al. (2007); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Sevcik and Erös (2008); Treer et al. (2008a); Dumbović et al. (2009); Jelić et al. (2009); Kerestessy et al. (2009); Sofradžija (2009); Treer et al. (2009); Zrnčić et al. (2009a); Jelić et al. (2010); Ozimec et al. (2010); Perea et al. (2010); Vardić Smrzlić (2010); Matulić et al. (2011); Piria et al. (2011b); Jelić et al. (2012); Jelkić and Opačak (2013); Zrnčić et al. (2013); Delić et al. (2014a); Jelić et al. (2016); Piria et al. (2016b); Pofuk et al. (2017); Simonović et al. (2017b); Zuliani et al. (2019)

Remarks: non-native in the Adriatic Basin

62. *Rutilus virgo* (Heckel, 1852)

Names under which the taxon was mentioned: *Leuciscus pigus virgo*; *Leuciscus roseus* Bonaparte, 1839; *Leuciscus virgo* Heckel, 1852; *Rutilus pigus* (Lacepède, 1803); *Rutilus pigus virgo* (Heckel, 1852)

English name: Danube roach

Croatian name: plotica

Range in Croatia: Danube drainage - middle and lower course of rivers

Literature: Bonaparte (1832-1841); Heckel and Kner (1858); Jurinac (1880); Jurinac (1884); Glowacki (1885); Seeley (1886); Sebišanović (1890); Brusina (1892); Franke (1892); Brusina (1893); Dudan (1893); Kišpatić (1893); Glowacki (1896); Hirc (1896); Hirc (1897); Hirc (1898); Hirc (1902d); Medić (1902); Langhoffer (1904); RHZZM (1908); Čurčić (1910); Hirc (1911); Vutskits (1918); Plančić (1923b); Anonymous (1925); Anonymous (1931c); Zaplata (1932); Maldini (1936a); Maldini (1938c); Rotarides (1944); Kosorić (1955); Smlatić (1961); Sabioncello (1967); Sabioncello et al. (1969); Vuković and Ivanović (1971); Munjko (1975); Klačterka (1979); Mikuska (1979); Bojčić et al. (1982); Bauer (1983); Mikuska (1983a); Mikuska (1983b); Vrenk (1984); Tvrtković (1985); Lelek (1987); Habeković and Popović (1991); Habeković et al. (1997); Leiner (1998a); Povž et al. (1998); Povž (1999); Mustafić (2001); Mrakovčić et al. (2002); Leiner (2003); Jakirčević (2005); Mustafić (2005); Pažur (2005); Sallai and Kontos (2005); Mrakovčić et al. (2006); Čaleta (2007); Kottelat and Freyhof (2007); Piria (2007); Prpa et al. (2007); Sallai and Mrakovčić (2007); Mateš (2008); Sallai and Kontos (2008); Treer et al. (2008a); Delić et al. (2009); Dumbović et al. (2009); Treer et al. (2009); Sofradžija (2009); Bučar et al. (2010); Popović (2010); Jelić et al. (2012); Muhamedagić and Habibović (2013); Delić et al. (2014a); Čaleta et al. (2015); Piria et al. (2016b); Simonović et al. (2017b); Nedić et al. (2018); Zuliani et al. (2019)

Remarks: endemic to the Danube drainage

SCARDINIUS Bonaparte, 1840

63. *Scardinius dergle* Heckel & Kner, 1858

Names under which the taxon was mentioned: *Leuciscus erythrophthalmus* (Linnaeus, 1758) *Leuciscus heegeri* Agassiz, 1835, *Leuciscus hesperidicus* Bonaparte, 1845; *Scardinius erythrophthalmus* (Linnaeus, 1758); *Scardinius erythrophthalmus hesperidicus* Heckel 1843; *Scardinius erythrophthalmus krkensis*; *Scardinius hegeri* Bonaparte, 1845; *Scardinius hesperidicus* Bonaparte, 1845; *Scardinius scardafa* (Bonaparte, 1837)

English name: Dalmatian rudd

Croatian name: drlja

Range in Croatia: Adriatic Basin - Krka and Cetina River drainages, Vransko Lake near Biograd, Vransko Lake on Cres Island

Literature: Bonaparte (1832-1841); Heckel (1843); Bonaparte (1845); Bonaparte (1846); Carrara (1846); Heckel and Kner (1858); Dybowski (1862); Canestrini (1866); Canestrini (1874); Giglioli (1880); Faber (1883); Katuri (1883); Kolombatović (1886a); Kolombatović (1886b); Seeley (1886); Kolombatović (1888); Botteri (1891); Kišpatić (1893); Katuri (1896a); Brusina (1907); Katuri 1907); Kolombatović (1907); Karaman (1923b); Hafner-Lahorski (1935b); Plančić (1950); Taler (1953a); Taler (1954a); Basioli (1958b); Pešić (1961); Vuković and Ivanović (1971); Ivanović (1972); Kosorić (1978); Klačterka (1979); Bojčić et al. (1982); Leiner (1985); Fašaić et al. (1990); Mrakovčić and Mišetić (1990a); Martinović (1995); Mrakovčić et al. (1995); Maitland and Crivelli (1996); Mrakovčić et al. (1996a); Kottelat (1997); Nocita and Vanni (1999); Topić Popović et al. (2000); Miotti (2002); Tutman et al. (2002); Mrakovčić et al. (2006); Valić (2006); Kottelat and Freyhof (2007); Valić et al. (2007); Jelić et al. (2008); Marguš (2008); Sofradžija (2009); Perea et al. (2010); Popović (2010); Valić (2010); Vardić Smrzlić (2010); Valić et al. (2013); Čaleta et al. (2015); Landeka et al. (2015); Babić (2016); Mustafić et al. (2017)

Remarks: endemic to the Adriatic Basin, reports for the waters of the Istrian peninsula and Zrmanja River requires revision due to the lack of data in the recent period

64. *Scardinius erythrophthalmus* (Linnaeus, 1758)

Names under which the taxon was mentioned: *Leuciscus erythrophthalmus* (Linnaeus, 1758); *Scardinius erythrophthalmus hisperidicus*; *Scardinius erythrophthalmus scardapha*

English name: Rudd

Croatian name: crvenperka

Range in Croatia: Danube drainage - middle and lower course of rivers, introduced to the Plitvice lakes; Adriatic Basin - introduced to the Tribalj reservoir and Lika River system

Literature: Heckel and Kner (1858); Brusina (1878); Jurinac (1880); Sebišanović (1880); Jurinac (1881); Sebišanović (1881); Faber (1883); Mojsisovics (1883); Jurinac (1884); Glowacki (1885); Anonymous (1886); Sebišanović (1889a); Sebišanović (1890); Brusina (1892); Brusina (1893); Dudan (1893); Kišpatić (1893); Glowacki (1896); Hirc (1896); Hirc (1897); Medić (1898); Brusina (1907); RHZZM (1908); Čurčić (1910); Vutskits (1918); Karaman (1923b); Plančić (1923b); Anonymous (1925); Fink (1932a); Trojanović (1934); Anonymous (1946a); Franić (1949); Taler (1953a); Basioli (1957b); Morović (1962); Vuković and Ivanišević (1962); Sabioncello et al. (1964); Habeković (1967); Sabioncello (1967); Zobundžija (1968); Sabioncello et al. (1969); Vrebac (1970); Vuković and Ivanović (1971); Ivanović (1972); Vrebac (1972); Čanadžija (1977); Klačterka (1979); Mikuska (1979); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Veljović (1982); Mikuska (1983a); Mikuska (1983b); Delić (1984); Mikuska (1984); Mikuska and Mamić (1984); Pompe-Gotal (1984); Vrenk (1984); Mikuska (1985); Ocvirk (1985); Tvrtković (1985); Veljović (1985); Habeković et al. (1986); Lelek (1987); Treer (1989); Habeković et al. (1990); Mrakovčić (1992); Delić (1993); Pažur (1993); Martinović (1995); Mrakovčić et al. (1995); Zrnčić (1995); Mihaljević et al. (1996); Mrakovčić et al. (1996b); Leiner (1998a); Majer (1998); Zanella et al. (2000); Jakovlić and Treer (2001); Mustafić (2001); Mrakovčić et al. (2002); Bakota et al. (2003); Jugović (2004); Jakirčević (2005); Mustafić (2005); Suić (2005); Šprem et al. (2005c); Mrakovčić et al. (2006); Čaleta (2007); Knežević (2007); Kottelat and Freyhof (2007); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Sevcsik and Erös (2008); Treer et al. (2008a); Delić et al. (2009); Kerestessy et al. (2009); Sofradžija (2009); Treer et al. (2009); Jelić et al. (2010); Ozimec et al. (2010); Šprem et al. (2010); Treer et al. (2011); Matulić et al. (2011); Piria et al. (2011a); Jelić et al. (2012); Valić et al. (2013); Nedić et al. (2014a); Nedić et al. (2014b); Riđanović et al. (2014); Jelić et al. (2016); Piria et al. (2016b); Piria et al. (2016c); Pofuk et al. (2017)

Remarks: non-native in the Plitvice Lakes and Adriatic Basin

65. *Scardinius plotizza* Heckel & Kner, 1858

Names under which the taxon was mentioned: *Leuciscus plotizza*; *Leuciscus erythrophthalmus* (Linnaeus, 1758) *scardafa* (Bonaparte, 1837); *Scardinius erythrophthalmus* (Linnaeus, 1758); *Scardinius erythrophthalmus scardapha* (Bonaparte, 1837); *Scardinius platizza* Heckel, 1845; *Scardinius scardafa* (Bonaparte, 1837)

English name: Neretva rudd

Croatian name: peškeli

Range in Croatia: Adriatic Basin - Neretva River drainage, Baćinska Lakes and Matica River near Vrgorac

Literature: Heckel (1843); Bonaparte (1845); Bonaparte

(1846); Carrara (1846); Heckel and Kner (1858); Dybowski (1862); Giglioli (1880); Faber (1883); Katuriċ (1883); Kolombatović (1886a); Kolombatović (1886b); Seeley (1886); Katuriċ (1887); Kolombatović (1888); Botteri (1891); Kišpatić (1893); Katuriċ (1896a); Katuriċ (1896c); Brusina (1907); Katuriċ (1907); Kolombatović (1907); Brusina (1908); Car (1911); Karaman (1923b); Koller (1928); Maldini (1936b); Basioli (1952); Taler (1953a); Basioli (1958a); Vuković and Ivanišević (1962); Sabioncello (1967); Vuković and Ivanović (1971); Ivanović (1972); Kolaković (1972); Morović (1976); Bojčić et al. (1982); Martinović (1995); Mrakovčić et al. (1995); Crivelli (1996); Kottelat (1997); Leiner (1998b); Tvrtković (1998); Nocita and Vanni (1999); Mrakovčić et al. (2000a); Mikavica et al. (2001); Ketmaier et al. (2004); Freyhof et al. (2005a); Mrakovčić et al. (2006); Kottelat and Freyhof (2007); Jelić et al. (2008); Bukvić et al. (2010); Glamuzina et al. (2010b); Glamuzina et al. (2013); Čaleta et al. (2015); Tutman et al. (2016)

Remarks: endemic to the Neretva River drainage and Adriatic Basin

SQUALIUS Bonaparte, 1841

66. *Squalius cephalus* (Linnaeus, 1758)

Names under which the taxon was mentioned: *Leuciscus cephalus* (Linnaeus, 1758); *Squalius dobula*; *Squalius albus* (Bonaparte, 1838)

English name: Chub

Croatian name: obični klen

Range in Croatia: Danube drainage - widespread; Adriatic Basin - introduced to Lika River system and Tribalj reservoir

Literature: Heckel and Kner (1858); Dybowski (1862); Steindachner (1866a); Steindachner (1866b); Brusina (1878); Jurinac (1880); Sebišanović (1880); Sebišanović (1881); Mojsisovics (1883); Jurinac (1884); Mojsisovics (1884); Glowacki (1885); Kesterčanek (1886); Anonymous (1886); Seeley (1886); Jurinac (1887); Hefele (1889); Sebišanović (1889b); Sebišanović (1889a); Sebišanović (1890); Brusina (1892); Franke (1892); Anonymous (1893a); Brusina (1893); Dudan (1893); Kišpatić (1893); Anonymous (1894a); Glowacki (1896); Hirc (1896); Hirc (1897); Hirc (1898); Hirc (1900a); Hirc (1902b); Langhoffer (1904); Brusina (1907); RHZZM (1908); Ćurčić (1910); Franić (1910); Kempf (1910); Hirc (1911); Lang (1911); Vutskits (1918); Plančić (1923a); Plančić (1923b); Anonymous (1925); Bergleitner (1925); Bergleitner (1928); Kaitner (1928); Kaitner (1929b); Anonymous (1930c); Rössler (1930); Anonymous (1931c); Krajačić (1932); Hafner-Lahorski (1935a); Popović (1935); Taler (1935b); Maldini (1936b); Lovrić (1938); Taler (1945a); Anonymous (1946a); Bergleitner (1946); Knop (1947b); Taler (1947); Taler (1951e); Kosorić (1955); Plančić (1956b); Jagodić (1957); Vuletić (1960); Pešić (1961); Knežević (1963b); Vinterhalter (1963); Vraneš (1966); Sabioncello

(1967); Anonymus (1968); Pažur (1968a); Pažur (1969c); Pažur (1969b); Sabioncello et al. (1969); Pažur (1970); Vuković and Ivanović (1971); Munjko (1975); Čanadjija (1977); Klačterka (1979); Mikuska (1979); Sofradžija and Hadžiselimović (1981); Veljović (1982); Mikuska (1983a); Mikuska (1983b); Delić (1984); Ocvirk (1984); Vrenk (1984); Delić (1985); Veljović (1985); Tvrtković (1985); Habeković et al. (1986); Delić (1989); Mišetić et al. (1989); Mrakovčić et al. (1989); Habeković et al. (1990); Habeković and Popović (1991); Mrakovčić (1992); Delić (1993); Habeković et al. (1993a); Pažur (1993); Mrakovčić et al. (1996b); Habeković et al. (1997); Honsig-Erlenburg et al. (1997); Treer et al. (1997); Leiner (1998a); Majer (1998); Povž et al. (1998); Treer et al. (1998); Kolak et al. (1999); Leiner (1999); Nocita and Vanni (1999); Treer et al. (1999); Holčík and Delić (2000); Zanella et al. (2000); Jakovlić and Treer (2001); Mustafić (2001); Mrakovčić et al. (2002); Bošnjir et al. (2003); Delić et al. (2003a); Leiner (2003); Domitrović et al. (2004); Jugović (2004); Mateš (2004); Piria et al. (2004); Jakirčević (2005); Mustafić (2005); Pažur (2005); Piria et al. (2005a); Piria et al. (2005b); Dulčić and Glamuzina (2006); Treer et al. (2006); Čaleta (2007); Dragun et al. (2007); Ivelić et al. (2007); Kurtović et al. (2007); Kottelat and Freyhof (2007); Piria (2007); Prpa et al. (2007); Sallai and Mrakovčić (2007); Mateš (2008); Sallai and Kontos (2008); Sevcsik and Erös (2008); Treer et al. (2008a); Zanella et al. (2008b); Delić et al. (2009); Dumbović et al. (2009); Jelić et al. (2009); Kerestessy et al. (2009); Kurtović et al. (2009); Majnarić (2009); Marijić (2009); Piria et al. (2009); Podrug et al. (2009); Podrug and Raspor (2009); Sofradžija (2009); Treer et al. (2009); Zrnčić et al. (2009a); Bučar et al. (2010); Buj (2010c); Jelić et al. (2010); Ozimec et al. (2010); Perović and Tvrtković (2010); Vardić Smrzlić (2010); Zupančić et al. (2010a); Zupančić et al. (2010b); Matulić et al. (2011); Pavlica et al. (2011); Piria et al. (2011b); Dragun et al. (2012); Jelić et al. (2012); Marčić et al. (2012); Dragun et al. (2013); Filipović Marijić et al. (2013); Krasnići et al. (2013); Delić et al. (2014a); Filipović et al. (2014); Filipović and Raspor (2014); Nedić et al. (2014a); Nedić et al. (2014b); Vukosav et al. (2014); Žutinić et al. (2014); Riđanović et al. (2014); Jelić et al. (2016); Mihailović et al. (2016); Piria et al. (2016a); Piria et al. (2016b); Jelić and Krivek (2017); Mustafić et al. (2017); Pofuk et al. (2017); Simonović et al. (2017b); Nedić et al. (2018); Zuliani et al. (2019)

Remarks: non-native in the Adriatic Basin

67. *Squalius illyricus* Heckel & Kner, 1858

Names under which the taxon was mentioned: *Leuciscus illyricus* (Heckel & Kner, 1858); *Leuciscus svallize* (Heckel & Kner, 1858); *Squalius albus* (Bonaparte, 1838); *Squalius cephalus* (Linnaeus, 1758); *Squalius svallize* Heckel & Kner, 1858

English name: Illyrian chub

Croatian name: ilirski klen

Range in Croatia: Adriatic Basin - Krka and Cetina River drainages

Literature: Heckel and Kner (1858); Dybowski (1862); Canestrini (1866); Brusina (1872); Canestrini (1874); Brusina (1878); Giglioli (1880); Faber (1883); Kolombatović (1886a); Kolombatović (1886b); Seeley (1886); Kolombatović (1888); Kišpatić (1893); Katuri (1896a); Brusina (1907); Kolombatović (1907); Brusina (1908); Car (1911); Karaman (1923b); Plančić (1950); Taler (1953a); Basioli (1958b); Vinterhalter (1963); Sabioncello (1967); Marko et al. (1968); Vuković and Ivanović (1971); Klašterka (1979); Popović and Habeković (1981); Bojčić et al. (1982); Tvrtković (1985); Bianco (1986); Bianco and Knežević (1987); Fašaić et al. (1990); Mrakovčić and Mišetić (1990a); Povž et al. (1990); Economidis and Bănărescu (1991); Popović et al. (1992); Habeković (1993); Habeković (1994b); Popović (1994); Mrakovčić et al. (1995); Crivelli (1996); Maitland and Crivelli (1996); Kottelat (1997); Kerovec (1998); Bogutskaya and Zupančič (1999); Nocita and Vanni (1999); Habeković and Mišetić (2000); Miotti (2002); Mateš (2004); Mustafić (2005); Mrakovčić et al. (2006); Tvrtković and Veen (2006); Valić (2006); Kottelat and Freyhof (2007); Prpa et al. (2007); Valić et al. (2007); Jelić et al. (2008); Margaš (2008); Treer et al. (2008a); Treer et al. (2009); Tvrtković et al. (2009); Perea et al. (2010); Popović (2010); Valić (2010); Vardić Smrzlić (2010); Zupančič et al. (2010a); Zupančič et al. (2010b); Mrakovčić and Čaleta (2011); Čaleta et al. (2015); Piria et al. (2016c); Mustafić and Mrakovčić (2017); Pofuk et al. (2017); Jakšić et al. (2019)

Remarks: reports for the Zrmanja River not confirmed, although hybrid individuals *S. illyricus* x *S. zrmanjae* were found in the Zrmanja River by the authors (unpublished data); stenoendemic to the Krka and Cetina Rivers, endemic to the Adriatic Basin and Croatia

68. *Squalius microlepis* Heckel, 1843

Names under which the taxon was mentioned: *Leuciscus microlepis* (Heckel, 1843); *Leuciscus turskyi microlepis* (Heckel, 1843);

English name: Makal dace

Croatian name: makal

Range in Croatia: Adriatic Basin - Vrljika River system, Proložko Blato and Baćinska Lakes, Matica River near Vrgorac

Literature: Heckel (1843); Carrara (1846); Heckel and Kner (1858); Dybowski (1862); Canestrini (1866); Brusina (1872); Canestrini (1874); Brusina (1878); Giglioli (1880); Faber (1883); Katuri (1883); Kolombatović (1886a); Seeley (1886); Kolombatović (1888); Botteri (1891); Kišpatić (1893); Katuri (1896a); Brusina (1907); Katuri (1907); Kolombatović (1907); Car (1911); Karaman (1923a); Karaman (1923b); Vuković and Ivanović (1971); Bojčić et al. (1982); Vuković (1982); Kottelat (1984); Mrakovčić

et al. (1996a); Kottelat (1997); Bănărescu et al. (1998); Schneider (1998); Nocita and Vanni (1999); Habeković and Pažur (2000); Mrakovčić et al. (2000a); Miotti (2002); Freyhof et al. (2005a); Freyhof et al. (2006); Mrakovčić et al. (2006); Kottelat and Freyhof (2007); Jelić et al. (2008); Valić et al. (2008); Glamuzina et al. (2010b); Popović (2010); Gabelica et al. (2011); Freyhof (2012); Glamuzina et al. (2013); Duplić (2014); Čaleta et al. (2015); Piria et al. (2016c); Mustafić and Mrakovčić (2017)

Remarks: reports for Cetina River not confirmed and likely the result of misidentification; endemic to the Adriatic Basin

69. *Squalius squalus* (Bonaparte, 1837)

Names under which the taxon was mentioned:

Leuciscus cavedanus Bonaparte, 1838; *Leuciscus cephalus* (Linnaeus, 1758); *Leuciscus cephalus albus* Bonaparte, 1838; *Leuciscus cephalus cabeda* Risso, 1827; *Leuciscus cephalus cavedanus*; *Leuciscus leuciscus* (Linnaeus, 1758); *Leuciscus svallize* (Heckel & Kner, 1858); *Leuciscus zrmanjae* (Karaman, 1928); *Squalius albus* (Bonaparte, 1838); *Squalius cavedanus* (Bonaparte 1838); *Squalius cephalus* (Linnaeus, 1758); *Squalius svallize* Heckel & Kner, 1858; *Squalius tyberinus* Bonaparte, 1841

English name: Italian chub

Croatian name: bijeli klen

Range in Croatia: Adriatic Basin - middle and lower course of the rivers on the Istrian Peninsula, Krka River

Literature: Bonaparte (1832-1841); Heckel and Kner (1858); Faber (1883); Kolombatović (1886a); Kolombatović (1886b); Seeley (1886); Kolombatović (1888); Botteri (1891); Kišpatić (1893); Steindachner (1895); Katuri (1896c); Langhoffer (1904); Largaiolli (1904); Brusina (1907); Car (1911); Koller (1928); Hafner-Lahorski (1935b); Gridelli (1936); Sabioncello (1967); Vuković and Ivanović (1971); Morović (1976); Žikić and Bertoša (1980); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Vuković (1982); Leiner (1984); Leiner and Popović (1984); Leiner (1985); Bianco and Knežević (1987); Fašaić et al. (1990); Povž et al. (1990); Povž and Sket (1990); Habeković et al. (1993b); Leiner and Povž (1993); Leiner and Povž (1994); Leiner et al. (1995); Mrakovčić et al. (1995); Mrakovčić et al. (1996a); Leiner (1998b); Bogutskaya and Zupančič (1999); Mrakovčić et al. (2000b); Topić et al. (2000); Mikavica et al. (2001); Povž (2002); Piria et al. (2005b); Mrakovčić et al. (2006); Valić (2006); Kottelat and Freyhof (2007); Šorić (2007); Muhamedagić et al. (2008); Bogutskaya and Zupančič et al. (2010b); Zupančič et al. (2010a); Zupančič et al. (2010b);); Freyhof (2012); Glamuzina et al. (2013); Bianco (2014a); Bianco (2014b); Čaleta et al. (2015); Babić (2016); Piria et al. (2016b); Piria et al. (2016c); Mustafić and Mrakovčić (2017)

Remarks: Bogutskaya & Zupančič (2010) described new species (*Sq. janae*) to Istrian Peninsula, Adriatic

Basin (Dragonja, Boljunščica and Pazinčica Rivers). New phylogenetic research (Buj et al. 2019 in press) proved that this is not a valid species but a synonym of *S. squalus*.

70. *Squalius svallize* Heckel & Kner, 1858

Names under which the taxon was mentioned: *Leuciscus svallize* (Heckel & Kner, 1858)

English name: Neretva chub

Croatian name: svalić

Range in Croatia: Adriatic Basin - Neretva River drainage and Konavosko Field

Literature: Heckel and Kner (1858); Dybowski (1862); Giglioli (1880); Steindachner (1882b); Faber (1883); Katuri (1883); Kolombatović (1886a); Kolombatović (1886b); Seeley (1886); Katuri (1887); Kolombatović (1888); Kišpatić (1893); Katuri (1896a); Kolombatović (1902); Kosić (1903); Langhoffer (1904); Katuri (1907); Kolombatović (1907); Brusina (1908); Car (1911); Karaman (1923b); Koller (1928); Maldini (1936b); Vuković (1961); Vinterhalter (1963); Sabioncello (1967); Vuković and Ivanović (1971); Kolaković (1972); Klačterka (1979); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Leiner (1984); Bianco and Knežević (1987); Mrakovčić and Mišetić (1990a); Povž et al. (1990); Leiner et al. (1995); Mrakovčić et al. (1995); Crivelli (1996); Maitland and Crivelli (1996); Mrakovčić et al. (1996a); Kottelat (1997); Leiner (1998b); Schneider (1998); Tvrtković (1998); Bogutskaya and Zupančič (1999); Nocita and Vanni (1999); Mrakovčić et al. (2000a); Mikavica et al. (2001); Tutman et al. (2002); Tvrtković and Franičević (2002); Aprahamian (2003); Has-Schön et al. (2006); Mrakovčić et al. (2006); Dulčić et al. (2007); Kottelat and Freyhof (2007); Prpa et al. (2007); Jelić et al. (2008); Marguš (2008); Muhamedagić et al. (2008); Treer et al. (2008a); Sofradžija (2009); Treer et al. (2009); Bukvić et al. (2010); Popović (2010); Zupančič et al. (2010a); Freyhof (2012); Piria et al. (2012); Glamuzina et al. (2013); Čaleta et al. (2015); Piria et al. (2016c); Mustafić and Mrakovčić (2017)

Remarks: reports for the other rivers in the Adriatic Basin, than the two mentioned above, are not confirmed and are likely the result of misidentification; population and taxonomic status of *Squalius* in the Matica River near Vrgorac and Bačinska Lake is uncertain since there are no recent reports and the presence of *S. svallize* and *S. microlepis*; *S. svallize* population from the Ljuta River in the Konavosko Field is of hybrid origin (introgressed mitochondrial DNA of *S. squalus*, Buj et al., 2019, in press); endemic to the Adriatic Basin

71. *Squalius tenellus* Heckel, 1843

Names under which the taxon was mentioned: *Leuciscus turskyi tenellus* (Heckel, 1843)

English name: Livno masnica

Croatian name: sitnoljuskavi klen

Range in Croatia: Adriatic Basin - introduced to the Cetina River drainage

Literature: Carrara (1846); Heckel and Kner (1858); Dybowski (1862); Canestrini (1866); Faber (1883); Botteri (1891); Kišpatić (1893); Brusina (1907); Karaman (1923a); Karaman (1923b); Čurčić (1938); Vuković and Ivanović (1971); Bojčić et al. (1982); Vuković (1982); Habeković and Pažur (2000); Kottelat and Freyhof (2007); Jelić et al. (2008); Freyhof (2012); Čaleta et al. (2015); Piria et al. (2016c); Mustafić and Mrakovčić (2017)

Remarks: introduced to the Cetina River drainage from Buško Blato Lake (in Bosnia and Herzegovina) through the subterranean system of the Orlovac hydro power plant; reports for the Vrljika River not confirmed and are likely the result of misidentification; endemic to the Adriatic Basin

72. *Squalius zrmanjae* Karaman, 1928

Names under which the taxon was mentioned: *Leuciscus svallize* (Heckel & Kner, 1858); *Leuciscus svallize zrmanjae* Karaman, 1928; *Leuciscus zrmanjae* (Karaman, 1928); *Squalius cavedanus* (Bonaparte 1838); *Squalius cephalus* (Linnaeus, 1758); *Squalius svallize* Heckel & Kner, 1858

English name: Zrmanja chub

žCroatian name: zrmanjski klen

Range in Croatia: Adriatic Basin - Zrmanja and Krka River drainages, introduced to the Ričica River in the Lika region

Literature: Katuri (1896f); Karaman (1928); Karaman (1929); Hafner-Lahorski (1935b); Anonymous (1967); Vuković and Ivanović (1971); Vuković (1982); Leiner (1985); Bianco and Knežević (1987); Kottelat (1997); Schneider (1998); Bogutskaya and Zupančič (1999); Durand et al. (2000); Mrakovčić et al. (2006); Kottelat and Freyhof (2007); Valić et al. (2007); Duplić (2008); Jelić et al. (2008); Perea et al. (2010); Popović (2010); Valić (2010); Vardić Smrzlić (2010); Zupančič et al. (2010a); Zupančič et al. (2010b); Miočić-Stošić and Kovačević (2013); Čaleta et al. (2015); Jelić et al. (2016); Piria et al. (2016c); Mustafić and Mrakovčić (2017)

Remarks: stenoendemic to the Zrmanja and Krka Rivers, endemic to the Adriatic Basin and Croatia

TELESTES Bonaparte, 1840

73. *Telestes croaticus* (Steindachner, 1866)

Names under which the taxon was mentioned: *Paraphoxinus adpersus* (Heckel, 1843); *Paraphoxinus croaticus* (Steindachner, 1866); *Phoxinellus croaticus* Steindachner, 1866

English name: Croatian pijor

Croatian name: hrvatski pijor

Range in Croatia: Adriatic Basin - Jadova, Ričica, Otuča and Obsenica River systems in the Lika region

Literature: Steindachner (1866b); Brusina (1878); Steindachner (1882a); Faber (1883); Seeley (1886); Brusina (1890); Hirc (1897); Hirc (1899b); Hirc (1900a); Hirc (1900b); Langhoffer (1904); Trgovčević (1905a); Trgovčević (1905b); RHZZM (1908); Trgovčević (1908); Car (1911); Vutskits (1918); Karaman (1923a); Karaman (1923b); Poljak (1924); Hirc (1925); Bergleitner (1928); Koller (1928); Trgovčević (1932); Taler (1947); Taler (1951g); Taler (1953a); Vraneš (1966); Anonymous (1967); Sabioncello (1967); Berberović et al. (1971); Guzina and Vuković (1971); Vuković and Ivanović (1971); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Bianco (1986); Povž et al. (1990); Habeković et al. (1992); Mrakovčić et al. (1995); Crivelli (1996); Kottelat (1997); Schneider (1998); Zupančič and Bogutskaya (2000); Miotti (2002); Tvrtković and Franičević (2002); Zupančič and Bogutskaya (2002); Bogutskaya and Zupančič (2003); Ketmaier et al. (2004); Mateš (2004); Freyhof et al. (2006); Mrakovčić et al. (2006); Kottelat and Freyhof (2007); Duplić (2008); Jelić et al. (2008); Palandačić et al. (2010); Perea et al. (2010); Popović (2010); Marčić et al. (2011); Freyhof (2012); Palandačić (2012a); Čaleta et al. (2015); Ozimec (2015); Jelić et al. (2016); Jelić and Krivek (2017); Buj et al. (2017)

Remarks: reports for the Krbavsko Field, Zrmanja and Zagorska Mrežnica Rivers in the Danube drainage not confirmed and are likely the result of misidentification; locally extinct from the Gacka and Lika Rivers; stenoendemic to the Lika region and endemic to Croatia

74. *Telestes fontinalis* (Karaman, 1972)

Names under which the taxon was mentioned: *Paraphoxinus croaticus* (Steindachner, 1866); *Phoxinellus adspersus fontinalis* Karaman, 1972; *Phoxinellus fontinalis* Karaman, 1972

English name: Krbava dace

Croatian name: krbavski pijor

Range in Croatia: Danube drainage - Krbavsko Field

Literature: Langhoffer (1904); Trgovčević (1905b); Taler (1951e); Taler (1953a); Karaman (1972); Zupančič and Bogutskaya (2000); Tvrtković and Franičević (2002); Zupančič and Bogutskaya (2002); Bogutskaya and Zupančič (2003); Freyhof et al. (2006); Mrakovčić et al. (2006); Kottelat and Freyhof (2007); Duplić (2008); Palandačić et al. (2010); Perea et al. (2010); Popović (2010); Freyhof (2012); Palandačić (2012a); Palandačić (2012b); Čaleta et al. (2015); Ozimec (2015); Jelić et al. (2016); Jelić and Krivek (2017); Buj et al. (2017)

Remarks: stenoendemic to the Krbavsko Field and endemic to the Danube drainage and Croatia

75. *Telestes karsticus* Marčić & Mrakovčić, 2011

Names under which the taxon was mentioned: *Leuciscus polylepis* (Steindachner, 1866); *Paraphoxinus alepidotus* (Heckel, 1843); *Telestes polylepis* Steindachner, 1866

English name: Karst dace

Croatian name: kapelska svijetlica

Range in Croatia: Danube drainage - small creeks in Lug, Jasenačko, Drežničko, Stajničko and Plaško Fields

Literature: Giglioli (1880); Kišpatić (1893); Trgovčević (1905d); Wettstein (1928); Taler (1953a); Vraneš (1966); Hrbek et al. (2004); Ketmaier et al. (2004); Mateš (2004); Freyhof et al. (2006); Zanella et al. (2008a); Buj (2010b); Perea et al. (2010); Popović (2010); Marčić et al. (2011); Freyhof (2012); Marčić (2013); Čaleta et al. (2015); Ozimec (2015); Marčić et al. (2017a); Marčić et al. (2017b); Buj et al. (2017)

Remarks: stenoendemic to the waters around Ogulin and endemic to the Danube drainage and Croatia

76. *Telestes miloradi* Bogutskaya, Zupančič, Bogut & Naseka, 2012

Names under which the taxon was mentioned: *Paraphoxinus metohiensis* Steindachner, 1901; *Paraphoxinus pstrossii* Steindachner, 1882; *Phoxinellus metohiensis* (Steindachner, 1901); *Telestes metohiensis* (Steindachner, 1901)

English name: Konavle dace

Croatian name: konavoski pijor

Range in Croatia: Adriatic Basin - Konavosko Field

Literature: Steindachner (1901); Kolombatović (1902); Kolombatović (1903); Trgovčević (1905a); Taler (1953a); Taler (1953f); Povž et al. (1990); Kottelat (1997); Zupančič and Bogutskaya (2002); Bogutskaya and Zupančič (2003); Mrakovčić et al. (2006); Bogutskaya et al. (2012); Čaleta et al. (2015); Jelić and Jelić (2015); Landeka et al. (2015); Ozimec (2015); Mustafić and Mrakovčić (2017); Buj et al. (2017)

Remarks: stenoendemic to the Ljuta River drainage and endemic to the Adriatic Basin and Croatia

77. *Telestes polylepis* Steindachner, 1866

Names under which the taxon was mentioned: *Leuciscus polylepis* (Steindachner, 1866); *Paraphoxinus croaticus* (Steindachner, 1866); *Phoxinus marsilii* Heckel, 1836

English name: Croatian dace

Croatian name: svijetlica

Range in Croatia: Danube drainage - Dobra and Zagorska Mrežnica Rivers and small creeks and lakes around Josipdol and Ogulin

Literature: Brusina (1878); Steindachner (1866a); Seeley

(1886); Brusina (1890); Kišpatić (1893); Glowacki (1896); Hirc (1897); Hirc (1900a); Trgovčević (1905d); RHZZM (1908); Car (1911); Vutskits (1918); Karaman (1923a); Karaman (1923b); Anonymous (1925); Bergleitner (1925); Koller (1928); Trgovčević (1932); Taler (1951b); Taler (1953a); Vraneš (1966); Sabioncello (1967); Vuković and Ivanović (1971); Conci and Michelangeli (1974); Bojčić et al. (1982); Tvrtković (1985); Bianco (1986); Mrakovčić and Mišetić (1990a); Povž et al. (1990); Economidis and Bănărescu (1991); Mrakovčić et al. (1995); Crivelli (1996); Maitland and Crivelli (1996); Kottelat (1997); Bănărescu et al. (1998); Miotti (2002); Tvrtković and Franičević (2002); Mateš (2004); Mrakovčić et al. (2006); Tvrtković and Veen (2006); Kottelat and Freyhof (2007); Duplić (2008); Jalžić et al. (2008); Valić et al. (2008); Buj (2010b); Perea et al. (2010); Popović (2010); Marčić et al. (2011); Freyhof (2012); Marčić (2013); Čaleta et al. (2015); Ozimec (2015); Buj et al. (2017)

Remarks: stenoendemic to the waters around Ogulin, endemic to the Danube drainage and Croatia; reports for the Krka and Čikola Rivers not confirmed and are likely the result of misidentification

78. *Telestes souffia* (Risso, 1827)

Names under which the taxon was mentioned: *Leuciscus agassizii* Valenciennes, 1844; *Leuciscus souffia* Risso, 1827; *Leuciscus souffia agassizii* Valenciennes, 1844; *Telestes agassizii* (Valenciennes, 1844)

English name: Souffia

Croatian name: blistavac

Range in Croatia: Danube drainage - upper part of the Sava River with small tributaries

Literature: Heckel and Kner (1858); Glowacki (1885); Anonymous (1886); Kišpatić (1893); Glowacki (1896); Mojsisovics (1897); Lang (1911); Vutskits (1918); Vuković and Ivanović (1971); Crivelli (1996); Mrakovčić et al. (1996b); Habeković et al. (1997); Mrakovčić et al. (2006); Tvrtković and Veen (2006); Kottelat and Freyhof (2007); Treer et al. (2008a); Treer et al. (2009); Jelić et al. (2012); Ozimec (2015); Vucić et al. (2017); Buj et al. (2017)

79. *Telestes turskyi* (Heckel 1843)

Names under which the taxon was mentioned: *Leuciscus polylepis* (Steindachner, 1866); *Leuciscus turskyi* (Heckel, 1843); *Squalius turskyi* Heckel, 1843; *Squalius turskyi*

English name: Tursky dace

Croatian name: turski klen

Range in Croatia: Adriatic Basin - Krka River drainage

Literature: Heckel (1843); Bonaparte (1845); Bonaparte (1846); Carrara (1846); Heckel and Kner (1858); Dybowski (1862); Canestrini (1866); Giglioli (1880); Faber (1883); Kolombatović (1886b); Seeley (1886); Botteri (1891);

Kišpatić (1893); Brusina (1907); Car (1911); Karaman (1923a); Karaman (1923b); Pešić (1961); Sabioncello (1967); Vuković and Ivanović (1971); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Tvrtković (1985); Bianco (1986); Povž et al. (1990); Crivelli (1996); Kottelat (1997); Bănărescu et al. (1998); Nocita and Vanni (1999); Miotti (2002); Tvrtković and Franičević (2002); Salzburger et al. (2003); Hrbek et al. (2004); Ketmaier et al. (2004); Freyhof et al. (2006); Mrakovčić et al. (2006); Kottelat and Freyhof (2007); Jelić et al. (2008); Valić et al. (2008); Zanella et al. (2008a); Sofradžija (2009); Perea et al. (2010); Popović (2010); Freyhof (2012); Mihinjač et al. (2014); Čaleta et al. (2015); Landeka et al. (2015); Ozimec (2015); Mustafić and Mrakovčić (2017); Buj et al. (2017)

Remarks: stenoendemic to the Krka River drainage and endemic to the Adriatic Basin and Croatia

80. *Telestes ukliva* (Heckel, 1843)

Names under which the taxon was mentioned: *Leuciscus souffia* Risso, 1827; *Leuciscus souffia agassizii* Valenciennes, 1844; *Leuciscus souffia muticellus* Bonaparte, 1837; *Leuciscus ukliva* (Heckel, 1843); *Paraphoxinus alepidotus* (Heckel, 1843); *Squalius ukliva* Heckel, 1843; *Telestes souffia* (Risso, 1827)

English name: Cetina dace

Croatian name: cetinska ukliva

Range in Croatia: Adriatic Basin - Čikola River drainage

Literature: Heckel (1843); Bonaparte (1845); Bonaparte (1846); Carrara (1846); Heckel and Kner (1858); Dybowski (1862); Canestrini (1866); Giglioli (1880); Faber (1883); Kolombatović (1886a); Kolombatović (1886b); Seeley (1886); Kolombatović (1888); Botteri (1891); Kišpatić (1893); Brusina (1907); Car (1911); Karaman (1923a); Karaman (1923b); Taler (1953a); Sabioncello (1967); Marko et al. (1968); Vuković and Ivanović (1971); Popović and Habeković (1981); Bojčić et al. (1982); Leiner and Popović (1984); Tvrtković (1985); Bianco (1986); Povž et al. (1990); Economidis and Bănărescu (1991); Habeković (1993); Habeković (1994b); Mrakovčić et al. (1995); Crivelli (1996); Kottelat (1997); Bănărescu et al. (1998); Kerovec (1998); Schneider (1998); Nocita and Vanni (1999); Habeković and Mišetić (2000); Faber (1883); Miotti (2002); Zanella (2003); Ketmaier et al. (2004); Mustafić (2005); Mrakovčić et al. (2006); Kottelat and Freyhof (2007); Prpa et al. (2007); Duplić (2008); Jelić et al. (2008); Treer et al. (2008a); Valić et al. (2008); Zanella et al. (2008a); Treer et al. (2009); Tvrtković et al. (2009); Zanella et al. (2009c); Perea et al. (2010); Popović (2010); Valić et al. (2010); Marčić et al. (2011); Mrakovčić and Čaleta (2011); Freyhof (2012); Čaleta et al. (2015); Ozimec (2015); Mustafić and Mrakovčić (2017); Buj et al. (2017)

Remarks: reports for the lakes near Imotski not confirmed and are likely the result of misidentification; stenoendemic to the Cetina River drainage and endemic to the Adriatic

Basin and Croatia

VIMBA Fitzinger, 1873

81. *Vimba vimba* (Linnaeus, 1758)

Names under which the taxon was mentioned: *Abramis melanops* (Heckel, 1837); *Abramis vimba* (Linnaeus, 1758); *Vimba elongata* (Valenciennes, 1844); *Vimba vimba carinata* (Pallas, 1814)

English name: Zarte

Croatian name: nosara

Range in Croatia: Danube drainage - middle and lower course of rivers

Literature: Heckel and Kner (1858); Steindachner (1866b); Jurinac (1884); Glowacki (1885); Kesterčanek (1886); Seeley (1886); Brusina (1892); Brusina (1893); Kišpatić (1893); Glowacki (1896); Mojsisovics (1897); Langhoffer (1904); RHZZM (1908); Čurčić (1910); Vutskits (1918); Plančić (1923b); Maldini (1935a); Rotarides (1944); Sabioncello (1967); Vuković and Ivanović (1971); Mikuska (1979); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Veljović (1982); Mikuska (1983a); Mikuska (1983b); Mikuska (1984); Vrenk (1984); Veljović (1985); Habeković et al. (1986); Lelek (1987); Habeković et al. (1990); Habeković and Popović (1991); Mrakovčić (1992); Mrakovčić et al. (1996b); Habeković et al. (1997); Honsig-Erlenburg et al. (1997); Leiner (1998a); Majer (1998); Povž et al. (1998); Mustafić (2001); Jakirčević (2005); Mustafić (2005); Mrakovčić et al. (2006); Čaleta (2007); Kottelat and Freyhof (2007); Piria (2007); Prpa et al. (2007); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Treer et al. (2008a); Delić et al. (2009); Dumbović et al. (2009); Kerestessy et al. (2009); Sofradžija (2009); Treer et al. (2009); Ozimec et al. (2010); Jelić et al. (2012); Delić et al. (2014a); Nedić et al. (2014a); Nedić et al. (2014b); Riđanović et al. (2014); Piria et al. (2016a); Simonović et al. (2017b); Nedić et al. (2018)

2.4.7. FAMILY: TINCIDAE Jordan, 1878

TINCA Cuvier, 1816

82. *Tinca tinca* (Linnaeus, 1758)

Names under which the taxon was mentioned: *Cyprinus tinca* Linnaeus, 1758; *Tinca chrysis* Fitzinger, 1832; *Tinca vulgaris* Fleming, 1828

English name: Tench

Croatian name: linjak

Range in Croatia: Danube drainage - middle and lower course of rivers and lakes; Adriatic Basin - introduced to rivers and reservoirs

Literature: Fortis (1771); Carrara (1846); Heckel and Kner (1858); Steindachner (1866b); Šloser (1870); Brusina (1878); Jurinac (1880); Sebišanović (1880); Sebišanović

(1881); Mojsisovics (1883); Jurinac (1884); Mojsisovics (1884); Glowacki (1885); Anonymous (1886); Kesterčanek (1886); Seeley (1886); Hefe (1889); Sebišanović (1889a); Sebišanović (1890); Brusina (1892); Brusina (1893); Dudan (1893); Kišpatić (1893); Kolombatović (1893); Glowacki (1896); Hirc (1897); Hirc (1899d); Hirc (1900b); Horvat (1900c); Hirc (1902d); Largaiolli (1904); Ivakić (1905); Anonymous (1906d); Katuri (1907); RHZZM (1908); Anonymous (1910b); Čurčić (1910); Hirc (1911); Karaman (1923b); Plančić (1923b); Karaman (1928); Rössler (1928); Kaitner (1929a); Anonymous (1931c); Fink (1932a); Thaller (1932); Gridelli (1936); Maldini (1936b); Maldini (1938c); Fijan (1948a); Morović (1948); Taler (1948c); Taler (1948e); Fijan (1949); Franić (1949); Fijan (1951a); Basioli (1952); Glavan (1952); Plančić (1952c); Plančić (1952d); Taler (1953d); Taler (1953a); Škovrlj (1953a); Pešić (1955); Plančić (1955); Fijan (1956); Grce (1956); Asaj and Šalić (1957); Basioli (1957b); Grce (1957); Morović (1962); Morović (1963); Morović (1964a); Sabioncello et al. (1964); Vraneš (1966); Habeković (1967); Sabioncello (1967); Zobundžija (1968); Sabioncello et al. (1969); Sabioncello (1971a); Vuković and Ivanović (1971); Pogrmilović (1972); Munjko (1978); Klasterk (1979); Mikuska (1979); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Veljović (1982); Mikuska (1983a); Mikuska (1983b); Leiner (1984); Mikuska (1984); Mikuska and Mamić (1984); Ocvirk (1984); Pompe-Gotal (1984); Vrenk (1984); Leiner (1985); Mikuska (1985); Ocvirk (1985); Tvrtković (1985); Habeković et al. (1986); Delić (1987); Lelek (1987); Turk et al. (1987); Mišetić et al. (1989); Fašaić et al. (1990); Habeković et al. (1990); Mrakovčić and Mišetić (1990a); Habeković (1991); Mrakovčić (1992); Delić (1993); Host (1993); Leiner and Povž (1993); Kolar-Dimitrijević (1994); Leiner and Povž (1994); Leiner et al. (1995); Mrakovčić et al. (1995); Povž (1995); Maitland and Crivelli (1996); Mrakovčić et al. (1996a); Mrakovčić et al. (1996b); Leiner (1998a); Leiner (1998b); Majer (1998); Mrakovčić (1998); Povž et al. (1998); Treer et al. (1998); Tvrtković (1998); Brylinska et al. (1999); Mrakovčić et al. (2000a); Mrakovčić et al. (2000b); Zanella et al. (2000); Topić Popović et al. (2000); Mustafić (2001); Mrakovčić et al. (2002); Bakota et al. (2003); Jugović (2004); Bašić (2005); Jakirčević (2005); Mustafić (2005); Pažur (2005); Suić (2005); Has-Schön et al. (2006); Mrakovčić et al. (2006); Valić (2006); Knežević (2007); Kottelat and Freyhof (2007); Prpa et al. (2007); Sallai and Mrakovčić (2007); Valić et al. (2007); Marguš (2008); Sallai and Kontos (2008); Sevcsik and Erös (2008); Suić et al. (2008); Treer et al. (2008a); Dumbović et al. (2009); Jelić et al. (2009); Sofradžija (2009); Treer et al. (2009); Buj (2010c); Bukvić et al. (2010); Ozimec et al. (2010); Valić (2010); Vardić Smrzlić (2010); Jelić et al. (2012); Marčić et al. (2012); Glamuzina et al. (2013); Marr et al. (2013); Delić et al. (2014a); Babić (2016); Jelić et al. (2016); Jelić and Krivek (2017); Lujić et al. (2017); Mustafić et al. (2017); Pofuk et al. (2017); Nedić et al. (2018)

Remarks: non-native in the Adriatic Basin

2.4.8. FAMILY: XENOCYPRIDIDAE Gunther, 1868

CTENOPHARYNGODON Steindachner, 1866

83. *Ctenopharyngodon idella* (Valenciennes, 1844)

English name: Grass carp

Croatian name: amur

Range in Croatia: Danube drainage: middle and lower course of rivers, lakes and reservoirs; Adriatic Basin - reservoirs

Literature: Sabioncello (1967); Vinterhalter (1967); Fijan and Vojta (1969); Vinterhalter (1969); Marko and Stoisavljević (1972); Pogrmilović (1972); Fijan (1976a); Mikuska (1979); Bojčić et al. (1982); Veljović (1982); Meštrov and Justić (1983); Mikuska (1983a); Mikuska (1983b); Mikuska (1984); Mikuska and Mamić (1984); Pompe-Gotal (1984); Leiner (1985); Mikuska (1985); Delić (1987); Safner (1987); Turk et al. (1987); Delić (1989); Delić (1993); Turk and Debeljak (1995); Mihaljević et al. (1996); Mrakovčić et al. (1996b); Majer (1998); Treer et al. (1998); Mustafić (2001); Piria et al. (2004); Jakirčević (2005); Mustafić (2005); Pažur (2005); Mrakovčić et al. (2006); Prpa et al. (2007); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Treer et al. (2008a); Sofradžija (2009); Treer et al. (2009); Ozimec et al. (2010); Jelić et al. (2012); Marčić et al. (2012); Marr et al. (2013); Zrnčić et al. (2013); Nedić et al. (2014a); Nedić et al. (2014b); Povž and Gregori (2014); Riđanović et al. (2014); Jelić et al. (2016); Piria et al. (2016b); Mustafić et al. (2017); Pofuk et al. (2017)

Remarks: non-native species

HYPOPHthalmichthys Bleeker, 1860

84. *Hypophthalmichthys molitrix* (Valenciennes, 1844)

English name: Silver carp

Croatian name: bijeli glavaš

Range in Croatia: Danube drainage - lower course of rivers and reservoirs; Adriatic Basin - Neretva River and some reservoirs

Literature: Vinterhalter (1967); Fijan and Vojta (1969); Vuković and Ivanović (1971); Pogrmilović (1972); Mikuska (1979); Meštrov and Justić (1983); Mikuska (1983a); Mikuska (1983b); Mikuska (1984); Pompe-Gotal (1984); Vrenk (1984); Delić (1987); Turk et al. (1987); Delić (1989); Homen et al. (1991); Harka (1992); Delić (1993); Turk and Debeljak (1995); Mrakovčić et al. (1996b); Treer et al. (1998); Jakirčević (2005); Mustafić (2005); Pažur (2005); Mrakovčić et al. (2006); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Jelić et al. (2009); Buj (2010c); Ozimec et al. (2010); Jelić et al. (2012); Glamuzina et al. (2013); Zrnčić et al. (2013); Piria et al. (2016b); Piria et al. (2016c); Mustafić et al. (2017); Pofuk et al. (2017); Piria et al. (2018)

Remarks: non-native species

85. *Hypophthalmichthys nobilis* (Richardson, 1845)

Names under which the taxon was mentioned: *Aristichthys nobilis* (Richardson 1845)

English name: Bighead carp

Croatian name: sivi glavaš

Range in Croatia: Danube drainage - lower course of rivers and reservoirs; Adriatic Basin - Neretva, Cetina and Lika Rivers and some reservoirs

Literature: Pogrmilović (1972); Vrenk (1984); Delić (1987); Turk et al. (1987); Delić (1989); Mišetić et al. (1989); Turk and Debeljak (1995); Zrnčić (1995); Mrakovčić et al. (1996b); Majer (1998); Simonović (2001); Piria et al. (2004); Mustafić (2005); Pažur (2005); Mrakovčić et al. (2006); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Ozimec et al. (2010); Jelić et al. (2012); Marčić et al. (2012); Jelkić and Opačak (2013); Jelić et al. (2016); Piria et al. (2016b); Piria et al. (2016c); Mustafić et al. (2017); Pofuk et al. (2017); Piria et al. (2018)

Remarks: non-native species

ORDER: CHARACIFORMES

FAMILY: SERRASALMIDAE Bleeker, 1859

PIARACTUS Eigenmann, 1903

UI3 *Piaractus brachypomus* (Cuvier, 1818)

English name: Pirapitinga

Croatian name: Pirapitinga

Range in Croatia: Danube drainage - two specimens reported in the lower Drava River near Osijek

Literature: Čaleta et al. (2011a); Piria et al. (2016b); Piria et al. (2018)

Remarks: non-native species; individual reports without the establishment of a self-sustaining population

2.5. ORDER: SILURIFORMES

FAMILY: MOCHOKIDAE Jordan, 1923

SYNODONTIS Cuvier, 1816

UI4 *Synodontis eupterus* Boulenger, 1901

English name: Featherfin squeaker

Croatian name: krilasti som

Range in Croatia: Adriatic Basin - Mala Neretva (Neretva River drainage) near Opuzen

Literature: Dulčić et al. (2018)

Remarks: non-native, aquarium species; one recorded individual, no self-sustaining populations established

2.5.1. FAMILY: SILURIDAE Rafinesque, 1815

SILURUS Linnaeus, 1758

86. *Silurus glanis* Linnaeus, 1758

English name: Wels catfish

Croatian name: som

Range in Croatia: Danube drainage - middle and lower course of rivers and lakes; Adriatic Basin -introduced to Vransko Lake near Biograd and the Lika River

Literature: Heckel and Kner (1858); Šloser (1870); Brusina (1878); Jurinac (1880); Sebišanović (1880); Borne (1881); Sebišanović (1881); Mojsisovics (1883); Mojsisovics (1884); Jurinac (1884); Glowacki (1885); Anonymous (1886); Kesterčanek (1886); Seeley (1886); Jurinac (1887); Šoštarić (1888); Hefele (1889); Sebišanović (1890); Brusina (1892); Franke (1892); Anonymous (1893b); Brusina (1893); Dudan (1893); Kišpatić (1893); Flögel (1894); Glowacki (1896); Hirc (1896); Hirc (1897); Anonymous (1899c); Steuer (1899); Aue (1900); Anonymous (1901); Horvat (1901); Ribić (1901); Ivakić (1905); Peheim (1905); Anonymous (1906d); Anonymous (1906e); RHZZM (1908); Peheim (1909); Ćurčić (1910); Kempf (1910); Vutskits (1918); Plančić (1920); Plančić (1923a); Anonymous (1925); Anonymous (1926); Anonymous (1927b); Bajić (1928); Rössler (1928); Anonymous (1930b); Anonymous (1930f); Anonymous (1930h); Anonymous (1931a); Anonymous (1931c); Anonymous (1931g); Fink (1932a); Fink (1932b); Maldini (1933); Ćurčić (1933); Trojanović (1934); Anonymous (1935e); Bek (1935); Jedlička (1935); Samobor (1935); Anonymous (1937b); Maldini (1937); Anonymous (1948d); Taler (1945a); Anonymous (1946a); Anonymous (1947a); Anonymous (1947c); Anonymous (1948b); Fijan (1948a); Taler (1948f); Fijan (1950); Hafner-Lahorski (1950a); Taler (1951e); Anonymous (1952c); Marjanović (1954); Pešić (1955); Plančić (1955); Fijan (1956); Grce (1956); Asaj and Šalić (1957); Grce (1957); Jagodić (1957); Anonymous (1959); Grce (1959); Smlatić (1961); Livojević (1962b); Livojević (1962a); Morović (1962); Hadžić (1964b); Morović (1964a); Sabioncello et al. (1964); Hadžić (1965); Salihćehajić (1965); Stepanek (1965); Bikić (1966); Habeković (1967); Hadžić (1967); Morović (1967); Sabioncello (1967); Zobundžija (1968); Anonymous (1969b); Sabioncello et al. (1969); Vuković and Ivanović (1971); Munjko (1972); Ristić (1972b); Vrebac (1972); Herga (1968); Pogrmilović (1972); Fodolović (1973); Mišković (1973); Fijan (1976a); Čanadžija (1977); Munjko (1978); Klačterka (1979); Mikuska (1979); Bojčić et al. (1982); Veljović (1982); Mikuska (1983a); Mikuska (1983b); Delić (1984); Mikuska (1984); Pompe-Gotal (1984); Ržaničanin et al. (1984b); Treer et al. (1984); Tvrtković (1985); Veljović (1985); Delić (1987); Habeković (1987); Lelek (1987); Treer (1987); Turk et al. (1987); Delić (1989); Treer (1989); Treer et al. (1989); Habeković et al. (1990); Kažić et al. (1990); Homen et al. (1991); Popović (1991); Treer et al. (1991); Mrakovčić (1992); Delić (1993);

Pažur (1993); Crivelli (1995); Mrakovčić et al. (1995); Zrnčić (1995); Mihaljević et al. (1996); Mrakovčić et al. (1996b); Habeković et al. (1997); Leiner (1998a); Majer (1998); Povž et al. (1998); Treer et al. (1998); Zanella et al. (2000); Mustafić (2001); Mrakovčić et al. (2002); Delić et al. (2003a); Leiner (2003); Mateš (2004); Piria et al. (2004); Jakirčević (2005); Mustafić (2005); Pažur (2005); Petrinc et al. (2005); Čaleta (2007); Kottelat and Freyhof (2007); Prpa et al. (2007); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Sevcsik and Erös (2008); Suić et al. (2008); Treer et al. (2008a); Delić et al. (2009); Dumbović et al. (2009); Sofradžija (2009); Treer et al. (2009); Bučar et al. (2010); Jelić et al. (2010); Jelkić et al. (2010); Ozimec et al. (2010); Labak (2011); Matulić et al. (2011); Treer et al. (2011); Jelić et al. (2012); Glamuzina et al. (2013); Jelkić and Opačak (2013); Marr et al. (2013); Šanda et al. (2013); Zrnčić et al. (2013); Delić et al. (2014a); Nedić et al. (2014a); Nedić et al. (2014b); Riđanović et al. (2014); Jelić et al. (2016); Piria et al. (2016b); Piria et al. (2016c); Mustafić et al. (2017); Pofuk et al. (2017); Simonović et al. (2017b); Nedić et al. (2018)

Remarks: non-native in the Adriatic Basin

FAMILY: CLARIIDAE Bonaparte, 1846

CLARIAS Scopoli, 1777

UI5 *Clarias gariepinus* Burchell, 1822

English name: North African catfish

Croatian name: afrički som

Range in Croatia: Danube drainage - introduced locally

Literature: Piria et al. (2018)

Remarks: non-native species; introduced to the Draganići fish farm for aquaculture purposes (Recirculation Aquaculture Systems) without a self-sustaining population

2.5.1. FAMILY: ICTALURIDAE Gill, 1861

AMEIURUS Rafinesque, 1820

87. *Ameiurus melas* (Rafinesque, 1820)

Names under which the taxon was mentioned: *Ameiurus nebulosus* (Lesueur, 1819); *Ictalurus melas* (Rafinesque, 1820); *Ictalurus nebulosus* (Lesueur, 1819); *Ictalurus punctatus* (Rafinesque, 1818)

English name: Black bullhead

Croatian name: crni somić

Range in Croatia: Danube drainage - middle and lower course of the rivers and backwaters; Adriatic Basin – rivers, reservoirs and lakes

Literature: Veljović (1982); Harka (1992); Habeković (1993); Crivelli (1995); Majer (1998); Schneider (1998); Mateš (2004); Bošnjir et al. (2005); Jakirčević (2005); Mustafić (2005); Mrakovčić et al. (2006); Čaleta (2007);

Duplić (2008); Sallai and Kontos (2008); Delić et al. (2009); Jelić et al. (2009); Jelić et al. (2010); Ozimec et al. (2010); Mrakovčić and Čaleta (2011); Jelić et al. (2012); Glamuzina et al. (2013); Marr et al. (2013); Povž and Gregori (2014); Piria et al. (2017); Nedić et al. (2018); Piria et al. (2018)

Remarks: non-native species; older reports of *A. nebulosus* are misidentified and belong to *A. melas* or *A. melas* recently replaced *A. nebulosus* in freshwaters of Croatia

88. *Ameiurus nebulosus* (Lesueur, 1819)

Names under which the taxon was mentioned: *Ictalurus nebulosus* (Lesueur, 1819)

English name: Brown bullhead

Croatian name: smeđi somić

Range in Croatia: Adriatic Basin - Neretva River drainage

Literature: Anonymous (1906d); Anonymous (1907d); Anonymous (1907b); Anonymous (1907c); Anonymous (1910a); Hirc (1911); Anonymous (1925); Rössler (1928); Anonymous (1931c); Ivančić (1946); Karaman (1952); Sabioncello (1967); Sabioncello (1971b); Vuković and Ivanović (1971); Čanadjija (1977); Klačterka (1979); Mikuska (1979); Bojčić et al. (1982); Mikuska (1983b); Mikuska (1983a); Delić (1984); Mikuska (1984); Vrenk (1984); Bojčić (1987); Delić (1989); Fijan et al. (1989); Habeković et al. (1990); Martinović et al. (1992); Delić (1993); Zrnčić (1995); Mrakovčić et al. (1996b); Delić et al. (1997); Kerovec (1998); Leiner (1998a); Leiner (1998b); Schneider (1998); Zanella et al. (2000); Mustafić (2001); Mrakovčić et al. (2002); Bakota et al. (2003); Bošnjir et al. (2003); Delić et al. (2003a); Jugović (2004); Pažur (2005); Mrakovčić et al. (2006); Bošnjir et al. (2007); Dulčić et al. (2007); Prpa et al. (2007); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Sevcsik and Erös (2008); Treer et al. (2008a); Treer et al. (2009); Sofradžija (2009); Bukvić et al. (2010); Vardić Smrzlić (2010); Jelić et al. (2012); Glamuzina et al. (2013); Jelkić and Opačak (2013); Nedić et al. (2014a); Nedić et al. (2014b); Riđanović et al. (2014); Povž and Gregori (2014); Povž and Gregori (2014); Piria et al. (2016b); Nedić et al. (2018); Piria et al. (2018)

Remarks: non-native species; older reports of *A. nebulosus* are misidentified and belong to *A. melas* or *A. melas* recently replaced *A. nebulosus* in freshwaters of Croatia

ICTALURUS Rafinesque, 1820

UI6 *Ictalurus punctatus* (Rafinesque, 1818)

English name: Channel catfish

Croatian name: kanalski somić

Range in Croatia: Danube drainage - introduced locally to fishponds

Literature: Sabioncello (1971b); Fijan et al. (1989)

Remarks: non-native species; introduced to the Našice fishpond, though breeding was unsuccessful

2.6. ORDER: ESOCIFORMES

2.6.1. FAMILY: ESOCIDAE Rafinesque, 1815

ESOX Linnaeus, 1758

89. *Esox lucius* Linnaeus, 1758

English name: Northern pike

Croatian name: štika

Range in Croatia: Danube drainage - middle and lower course of rivers and lakes; Adriatic Basin - introduced to Vransko Lake near Biograd, Vransko Lake on Cres Island, Ponikve Lake on Krk Island, Mirna, Gacka, Lika, Cetina and Neretva Rivers

Literature: Fortis (1771); Taube (1777); Heckel and Kner (1858); Steindachner (1866b); Šloser (1870); Jurinac (1880); Sebišanović (1880); Borne (1881); Sebišanović (1881); Faber (1883); Mojsisovics (1883); Jurinac (1884); Mojsisovics (1884); Glowacki (1885); Anonymous (1886); Kesterčanek (1886); Seeley (1886); Jurinac (1887); Hefe (1889); Sebišanović (1889c); Sebišanović (1889a); Sebišanović (1890); Brusina (1892); Franke (1892); Anonymous (1893a); Anonymous (1893d); Brusina (1893); Dudan (1893); Kišpatić (1893); Anonymous (1894a); Anonymous (1894c); Anonymous (1894f); Anonymous (1895); Anonymous (1896a); Glowacki (1896); Hirc (1896); Brusina (1897); Hirc (1897); Anonymous (1898a); Hirc (1898); Hirc (1900a); Hirc (1900b); Langhoffer (1904); Ivakić (1905); Anonymous (1907a); Brusina (1907); RHZZM (1908); Trgovčević (1908); Anonymous (1909a); Anonymous (1910b); Čurčić (1910); Franić (1910); Kempf (1910); Car (1911); Vutskits (1918); Plančić (1920); Karaman (1923b); Plančić (1923a); Plančić (1923b); Anonymous (1925); Hirc (1925); Bajić (1927); Rössler (1928); Wettstein (1928); Anonymous (1929a); Anonymous (1930b); Anonymous (1930c); Anonymous (1930f); Anonymous (1930g); Anonymous (1931b); Anonymous (1931c); Anonymous (1931g); Kaitner (1931); Fink (1932a); Kaitner (1932); Krajačić (1932); Rössler (1932); Trgovčević (1932); Čurčić (1933); Trojanović (1934); Bek (1935); Hafner-Lahorski (1935c); Jedlička (1935); Samobor (1935); Anonymous (1936b); Gridelli (1936); Maldini (1936a); Anonymous (1937b); Maldini (1937); Maldini (1938b); Taler (1945a); Anonymous (1946a); Kapac (1948); Taler (1948c); Taler (1948e); Franić (1949); Hafner-Lahorski (1950a); Taler (1950b); Taler (1951g); Uzelac (1952a); Plančić et al. (1953); Taler (1953a); Taler (1953d); Taler (1953c); Taler (1953a); Marjanović (1954); Pešić (1955); Basioli (1957b); Jagodić (1957); Smlatić (1961); Winterhalter (1964); Hadžić (1964a); Sabioncello (1967); Pažur (1968a); Zobundžija (1968); Sabioncello et al. (1969); Vrebac (1970); Vuković and Ivanović (1971); Munjko (1972); Vrebac (1972); Štefanac (1973); Munjko (1978); Klačterka (1979); Mikuska (1979); Pažur (1979);

Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Veljović (1982); Vuković (1982); Mikuska (1983a); Mikuska (1983b); Delić (1984); Mikuska (1984); Mikuska and Mamić (1984); Ocvirk (1984); Pompe-Gotal, (1984); Vrenk (1984); Delić (1985); Leiner (1985); Mikuska (1985); Ocvirk (1985); Tvrtković (1985); Veljović (1985); Habeković et al. (1986); Lelek (1987); Delić (1989); Treer (1989); Habeković et al. (1990); Habeković and Popović (1991); Homen et al. (1991); Popović (1991); Mrakovčić (1992); Ocvirk (1992); Delić (1993); Host (1993); Leiner and Povž (1993); Pažur (1993); Leiner and Povž (1994); Leiner et al. (1995); Povž (1995); Mihaljević et al. (1996); Mrakovčić et al. (1996b); Biber (1997); Habeković and Pažur (1998); Leiner (1998a); Majer (1998); Povž et al. (1998); Treer et al. (1998); Holčik and Delić (2000); Topić Popović et al. (2000); Zanella et al. (2000); Mustafić (2001); Simonović (2001); Mrakovčić et al. (2002); Bakota et al. (2003); Delić et al. (2003a); Leiner (2003); Jugović (2004); Piria et al. (2004); Bašić (2005); Jakirčević (2005); Mustafić (2005); Pažur (2005); Petrinc et al. (2005); Suić (2005); Mrakovčić et al. (2006); Čaleta (2007); Ivelić et al. (2007); Knežević (2007); Kottelat and Freyhof (2007); Prpa et al. (2007); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Sevcsik and Erös (2008); Suić et al. (2008); Treer et al. (2008a); Delić et al. (2009); Dumbović et al. (2009); Jelić et al. (2009); Kerestessy et al. (2009); Treer et al. (2009); Tvrtković et al. (2009); Sofradžija (2009); Bučar et al. (2010); Buj (2010c); Jelić et al. (2010); Jelkić et al. (2010); Ozimec et al. (2010); Vardić Smrzlić (2010); Labak (2011); Matulić et al. (2011); Mrakovčić and Čaleta (2011); Jelić et al. (2012); Marčić et al. (2012); Marr et al. (2013); Šanda et al. (2013); Valić et al. (2013); Zrnčić et al. (2013); Delić et al. (2014a); Nedić et al. (2014a); Nedić et al. (2014b); Riđanović et al. (2014); Babić (2016); Jelić et al. (2016); Piria et al. (2016b); Piria et al. (2016c); Mustafić et al. (2017); Pofuk et al. (2017); Simonović et al. (2017b); Nedić et al. (2018); Piria et al. (2018); Zuliani et al. (2019)

Remarks: non-native in the Adriatic Basin

2.6.2. FAMILY: UMBRIDAE Bonaparte, 1845

UMBRA Walbaum, 1792

90. *Umbra krameri* Walbaum, 1792

Names under which the taxon was mentioned: *Umbra canina* Károli, 1882

English name: European mudminnow

Croatian name: crnka

Range in Croatia: Danube drainage - lower course and backwaters of the Mura, Drava and Danube Rivers, Žutica Forest and upper course of the Odra River in the Sava River system

Literature: Heckel and Kner (1858); Mojsisovics (1887); Kišpatić (1893); Mojsisovics (1897); Brusina (1899); Langhoffer (1904); RHZZM (1908); Maldini (1936b);

Taler (1951b); Anonymous (1953a); Pavletić (1954); Pešić (1955); Sabioncello (1967); Vuković and Ivanović (1971); Mikuska (1979); Mikuska (1983b); Povž (1984); Mrakovčić and Kerovec (1990); Leiner (1995); Povž (1995); Wanzenböck (1995); Mrakovčić et al. (1996b); Delić et al. (1997); Zanella et al. (2000); Mustafić (2001); Leiner (2003); Pažur (2005); Sallai and Kontos (2005); Mrakovčić et al. (2006); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Freyhof (2012); Jelić et al. (2012); Marić et al. (2017)

2.7. ORDER: SALMONIFORMES

2.7.1. FAMILY: SALMONIDAE Schinz, 1822

COREGONUS Lacepède, 1803

91. *Coregonus lavaretus* (Linnaeus, 1758)

Names under which the taxon was mentioned: *Coregonus lavaretus maraena* (Bloch, 1779)

English name: European whitefish

Croatian name: velika ozimica

Range in Croatia: Danube drainage - Drava River; Adriatic Basin- introduced to reservoirs on the Cetina River

Literature: Habeković (1978a); Vrenk (1984); Jevtić (1991); Habeković (1993); Crivelli (1995); Mrakovčić et al. (1996b); Kerovec (1998); Pažur (2005); Tvrtković et al. (2009); Schneider (1998); Mrakovčić et al. (2006); Mrakovčić and Čaleta (2011); Jelić et al. (2012); Povž and Gregori (2014); Piria et al. (2016b); Piria et al. (2018)

Remarks: non-native species; individual specimens reported in the Drava River

92. *Coregonus peled* (Gmelin, 1789)

Names under which the taxon was mentioned: *Coregonus oxyrinchus* (Linnaeus, 1758)

English name: Northern whitefish

Croatian name: sjeverna ozimica

Range in Croatia: Adriatic Basin - introduced to reservoirs on the Cetina River

Literature: Plančić (1938); Habeković (1978a); Vuković and Kosorić (1978); Habeković et al. (1981); Bojčić et al. (1982); Habeković (1982); Vrenk (1984); Treer (1985); Habeković and Čolo-Ančić (1986); Kažić et al. (1990); Jevtić (1991); Habeković (1993); Teskeredžić et al. (1993); Habeković (1994a); Crivelli (1995); Kerovec (1998); Schneider (1998); Mrakovčić et al. (2006); Tvrtković et al. (2009); Mrakovčić and Čaleta (2011); Piria et al. (2016b); Piria et al. (2018)

Remarks: non-native species

HUCHO Günther, 1866

93. *Hucho hucho* (Linnaeus, 1758)

Names under which the taxon was mentioned: *Salmo hucho* Linnaeus, 1758; *Salvenius hucho*; *Epitomynis hucho* Schulze, 1890

English name: Huchen

Croatian name: mladica

Range in Croatia: Danube drainage - upper course of the Kupa, Sava, Drava and Una Rivers

Literature: Seljan (1843); Bonaparte (1846); Jurinac (1880); Sebišanović (1880); Jurinac (1884); Glowacki (1885); Anonymous (1886); Kesterčanek (1886); Seeley (1886); Šoštarić (1888); Hefelet (1889); Sebišanović (1889a); Sebišanović (1890); Brusina (1892); Franke (1892); Anonymous (1893a); Brusina (1893); Dudan (1893); Kišpatić (1893); Flögel (1894); Hawlitschek (1895); Glowacki (1896); Hirc (1896); Hirc (1897); Mojsisovics (1897); Hirc (1898); Steuer (1899); Anonymous (1900b); Horvat (1900d); Horvat (1901); Medić (1901b); Hirc (1902c); Anonymous (1903b); Langhoffer (1904); Brusina (1907); Anonymous (1909b); Čurčić (1910); Vutskits (1918); Karaman (1923b); Plančić (1923a); Anonymous (1925); Bergleitner (1925); Kaitner (1926c); Anonymous (1927d); Anonymous (1927i); Bajić (1927); Anonymous (1928d); Bergleitner (1928); Anonymous (1930a); Anonymous (1930b); Anonymous (1930f); Rössler (1930); Anonymous (1931c); Kraus (1932); Mršić (1932a); Thaller (1932); Koritnik (1934); Anonymous (1935g); Plančić (1935a); Taler (1935b); Anonymous (1936a); Anonymous (1936c); Maldini (1936b); Thaler (1936); Anonymous (1937a); Anonymous (1937b); Hirtz (1937); Maldini (1938c); Taler (1944); Taler (1945b); Taler (1945a); Anonymous (1946a); Hafner-Lahorski (1947c); Knop (1947c); Hafner-Lahorski (1948a); Taler (1948d); Anonymous (1949); Taler (1950c); Taler (1951b); Taler (1953a); Taler (1953g); Anonymous (1955c); Kosorić (1955); Smlatić (1961); Sabioncello (1967); Pažur (1968b); Pažur (1969a); Anonymous (1969a); Sabioncello et al. (1970); Vuković and Ivanović (1971); Pažur (1975); Klačterka (1979); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Pažur et al. (1982); Vrenk (1984); Schulz (1985); Tvrtković (1985); Lelek (1987); Skalin (1990); Pažur (1993); Teskeredžić et al. (1993); Mrakovčić et al. (1996b); Honsig-Erlenburg et al. (1997); Majer (1998); Povž et al. (1998); Mustafić (2001); Georgiev (2003); Mateš (2004); Jakirčević (2005); Pažur (2005); Mrakovčić et al. (2006); Sallai and Mrakovčić (2007); Duplić (2008); Mateš (2008); Sallai and Kontos (2008); Valić et al. (2008); Dumbović et al. (2009); Sofradžija (2009); Bučar et al. (2010); Buj (2010c); Perović and Tvrtković (2010); Popović (2010); Freyhof (2012); Jelić et al. (2012); Witkowski et al. (2013); Treer et al. (2014); Čaleta et al. (2015); Piria et al. (2016b); Pofuk et al. (2017)

Remarks: endemic to the Danube drainage

ONCORHYNCHUS Suckley, 1860

UI7 *Oncorhynchus kisutch* (Walbaum, 1792)

English name: Coho Salmon

Croatian name: srebrni losos

Range in Croatia: Danube drainage - introduced to the Vitunjčica and Dobra Rivers; Adriatic Basin - introduced in cage farming in the Adriatic Sea

Literature: Teskeredžić and Edwards (1987); Teskeredžić et al. (1989); Mateš (2004); Piria et al. (2018)

Remarks: non-native species; no self-sustaining populations established

UI8 *Oncorhynchus masou* (Brevoort, 1856)

Names under which the taxon was mentioned: *Oncorhynchus masou rhodurus* Jordan & McGregor, 1925

English name: Masu salmon

Croatian name: japanski losos

Range in Croatia: Danube drainage - introduced to the Gračani fishpond; Adriatic Basin - introduced to the Krka River estuary

Literature: Teskeredžić and Teskeredžić (1990); Skaramuca et al. (1997)

Remarks: non-native species; no self-sustaining populations established

94. *Oncorhynchus mykiss* (Walbaum, 1792)

Names under which the taxon was mentioned: *Parasalmo gairdneri* (Richardson 1836); *Salmo gairdneri* Richardson, 1836; *Salmo giardneri irideus* Gibbons, 1855; *Salmo irideus* Gibbons, 1855; *Trutta iridea* (Gibbons, 1855)

English name: Rainbow trout

Croatian name: kalifornijska pastrva

Range in Croatia: Danube drainage and Adriatic Basin (except Istria) - introduced to upper course of rivers

Literature: Anonymous (1893b); Kišpatić (1893); Anonymous (1894b); Anonymous (1894f); Anonymous (1896c); Anonymous (1902); Kaitner (1926b); Anonymous (1927g); Anonymous (1928a); Anonymous (1929c); Anonymous (1930e); Anonymous (1931b); Thaller (1932); Anonymous (1935j); Mršić (1935c); Mršić (1935d); Mršić (1935a); Plančić (1935b); Taler (1935b); Taler (1935a); Gridelli (1936); Mršić (1938); Plančić (1938); Taler (1938); Anonymous (1946b); Bergleitner (1946); Taler (1946b); Taler (1946c); Taler (1948a); Taler (1948e); Anonymous (1949); Taler (1950b); Taler (1950c); Taler (1951c); Plančić et al. (1953); Taler (1954b); Anonymous (1955a); Bogdanović (1958); Taler (1958); Pilicar (1959); Bogdanović (1961); Knežević (1963a); Knežević (1963b); Anonymous (1965a); Vraneš (1966); Sabioncello (1967); Anonymous (1968); Pažur (1969c); Pažur (1969a); Pažur (1969b); Pažur

(1970); Sabioncello et al. (1970); MacCrimmon (1971); Vuković and Ivanović (1971); Štefanac (1973); Pažur (1975); Habeković (1978b); Klačterka (1979); Mikuska (1979); Hrženjak and Ehrlich (1981); Bojčić et al. (1982); Habeković (1982); Mikuska (1983a); Mikuska (1983b); Teskeredžić (1983); Bristol et al. (1984); Ocvirk (1984); Teskeredžić (1984); Vrenk (1984); Al-Sabti (1985); Leiner (1985); Treer (1985); Teskeredžić et al. (1986); Teskeredžić and Pfeifer (1986); Kuhar and Huber (1989); Malnar (1989); Teskeredžić et al. (1989); Fašaić et al. (1990); Kažić et al. (1990); Mrakovčić and Mišetić (1990a); Habeković (1993); Leiner and Povž (1993); Teskeredžić et al. (1993); Habeković (1994a); Mrakovčić et al. (1995); Maitland and Crivelli (1996); Mrakovčić et al. (1996b); Honsig-Erlenburg et al. (1997); Skaramuca et al. (1997); Bonacci et al. (1998); Kerovec (1998); Povž et al. (1998); Schneider (1998); Leiner (1999); Mustafić (2001); Zupančič and Bogutskaya (2002); Schöffmann (2003); Mateš (2004); Jakirčević (2005); Mustafić (2005); Pažur (2005); Suić (2005); Šprem et al. (2005b); Treer et al. (2005); Mrakovčić et al. (2006); Knežević (2007); Prpa et al. (2007); Sallai and Mrakovčić (2007); Snoj et al. (2007); Valić et al. (2007); Duplić (2008); Kapetanović et al. (2008); Muhamedagić et al. (2008); Sallai and Kontos (2008); Valić et al. (2008); Treer et al. (2009); Tvrtković et al. (2009); Bučar et al. (2010); Bukvić et al. (2010); Pavličević et al. (2010); Vardić Smrzlić (2010); Mrakovčić and Čaleta (2011); Glamuzina et al. (2011); Labak (2011); Jelić et al. (2012); Marčić et al. (2012); Marr et al. (2013); Vardić et al. (2013); Duplić (2014); Povž and Gregori (2014); Tomljanović (2014); Vukosav et al. (2014); Ozimec (2015); Stanković et al. (2015); Jelić et al. (2016); Piria et al. (2016b); Pofuk et al. (2017); Piria et al. (2018)

Remarks: non-native species

SALMO Linnaeus, 1758

? *Salmo dentex* (Heckel, 1852)

Names under which the taxon was mentioned: *Salar dentex* Heckel, 1852; *Salmo trutta dentex* (Heckel, 1852); *Trutta dentex*

English name: Dentex trout

Croatian name: zubatak

Range in Croatia: Adriatic Basin – Cetina and Neretva Rivers

Literature: Heckel (1852); Heckel and Kner (1858); Canestrini (1866); Brusina (1872); Canestrini (1874); Brusina (1878); Giglioli (1880); Steindachner (1882b); Faber (1883); Katuri (1883); Kolombatović (1886a); Kolombatović (1886b); Seeley (1886); Katuri (1887); Kolombatović (1888); Katuri (1896a); Katuri (1896c); Brusina (1907); Katuri (1907); Car (1911); Čurčić (1915); Anonymous (1930e); Thaller (1932); Karaman (1932); Karaman (1936); Karaman (1938); Kovačević (1952); Taler (1953a); Jedlička (1954); Stepanek (1956); Pešić (1961); Vuković (1963); Karaman (1966); Stepanek (1966);

Sabioncello (1967); Behnke (1968); Vuković and Ivanović (1971); Klačterka (1979); Bojčić et al. (1982); Tvrtković (1985); Economidis and Bănărescu (1991); Teskeredžić et al. (1993); Mrakovčić et al. (1995); Crivelli (1996); Kottelat (1997); Leiner (1998b); Kerovec (1998); Tvrtković (1998); Tutman et al. (2002); Mateš (2004); Razpet (2004); Pažur (2005); Mrakovčić et al. (2006); Kottelat (2007); Kottelat and Freyhof (2007); Mateš (2008); Muhamedagić et al. (2008); Tutman et al. (2008a); Valić et al. (2008); Glamuzina (2009); Sofradžija (2009); Tvrtković et al. (2009); Delling (2010); Glamuzina et al. (2010a); Glamuzina et al. (2010b); Pavličević et al. (2010); Georgiev (2011); Glamuzina et al. (2011); Mrakovčić and Čaleta (2011); Glamuzina et al. (2013); Bianco (2014a); Čaleta et al. (2015)

Remarks: the taxonomic status of this species is uncertain; no genetically distinct unit that would confirm to *S. dentex* has been found, therefore the name may be a synonym or corresponds to a morphotype of *S. farioides* or *S. trutta*; reports for the Cetina River have not been confirmed and are likely the result of misidentification; endemic to the Adriatic Basin

95. *Salmo farioides* Karaman, 1938

Names under which the taxon was mentioned: *Salmo fario* Linnaeus, 1758; *Salmo trutta* Linnaeus, 1758; *Salmo trutta farioides*; *Salmo zrmanjensis*, Karaman 1938; *Salmo visovacensis* Taler, 1950a; *Trutta fario* (Linnaeus, 1758)

English name: Adriatic trout

Croatian name: primorska pastrva

Range in Croatia: Adriatic Basin - rivers and lakes

Literature: Grisogono (1780); Lanza (1842); Kolombatović (1893); Kolombatović (1895); Katuri (1896a); Kolombatović (1907); Čurčić (1915); Heintz (1915); Karaman (1927); Karaman (1936); Karaman (1938); Morović (1948); Pušić (1948); Taler (1950a); Taler (1950c); Basioli (1952); Kovačević (1952); Taler (1953a); Jedlička (1954); Stojnić (1965); Anonymous (1967); Sabioncello (1967); Behnke (1968); Marko et al. (1968); Sabioncello et al. (1970); Vuković and Ivanović (1971); Bojčić et al. (1982); Klačterka (1979); Mrakovčić and Mišetić (1990a); Leiner and Povž (1993); Teskeredžić et al. (1993); Mrakovčić et al. (1995); Mrakovčić et al. (1996a); Kottelat (1997); Leiner (1998b); Schneider (1998); Habeković and Mišetić (2000); Mikavica et al. (2001); Georgiev (2003); Schöffmann (2003); Mateš (2004); Razpet (2004); Mrakovčić et al. (2006); Vardić (2006); Kottelat (2007); Kottelat and Freyhof (2007); Kapetanović et al. (2008); Valić et al. (2008); Zupančič (2008); Glamuzina (2009); Bukvić et al. (2010); Glamuzina et al. (2010a); Glamuzina et al. (2010b); Pavličević et al. (2010); Georgiev (2011); Glamuzina et al. (2011); Glamuzina et al. (2013); Miočić-Stošić and Kovačević (2013); Bianco (2014a); Bianco (2014b); Čaleta et al. (2015)

Remarks: Due to the unresolved taxonomy of the genus

Salmo, it is not clear whether this is a distinct species or whether this name corresponds to the Adriatic lineage of *S. trutta*. Based on the most recent reports, the authors find *S. fario* to be a valid name for reproductively isolated species.

96. *Salmo labrax* Pallas, 1814

Names under which the taxon was mentioned:

English name: Black Sea salmon

Croatian name: dunavska pastrva

Range in Croatia: Danube drainage - upper course of rivers

Literature: Holčík and Delić (2000); Delić et al. (2003a); Kottelat and Freyhof (2007); Bučar et al. (2010)

Remarks: Taxonomic status of this species is uncertain, although it is recognized as a separate taxonomic unit by majority of authors. However, the same unit has been described both as a separate species, *S. labrax* (e.g. Kottelat & Freyhof, 2007) and as genetically distinct lineage inside *S. trutta*, named Danubian lineage (e.g. Bernatchez 2001, Bernatchez et al. 1992). Comprehensive taxonomic investigation is required to resolve taxonomic position of trout populations in Danube drainage in Croatia and elsewhere.

97. *Salmo marmoratus* Cuvier, 1829

Names under which the taxon was mentioned: *Salar genivittatus marmorata* Siebold, 1863; *Salmo trota*, Linnaeus, 1758; *Trutta genivittata* (Heckel-Kner 1858); *Trutta adriatica* Kolombatović, 1890

English name: Marble trout

Croatian name: glavatica

Range in Croatia: Adriatic Basin - Neretva River drainage

Literature: Grisogono (1780); Lanza (1842); Heckel and Kner (1858); Kolombatović (1886a); Kolombatović (1886b); Kolombatović 1890; Kosić (1891); Kolombatović (1894); Katuri (1896a); Katuri (1896f); Kosić (1898); Kolombatović (1907); Brusina (1908); Čurčić (1915); Heintz (1915); Jedlička (1926a); Jedlička (1926b); Taler (1926); Karaman (1927); Jedlička (1928); Anonymous (1929e); Thaller (1929); Anonymous (1930c); Anonymous (1930g); Anonymous (1930d); Anonymous (1930e); Ninni (1930); Karaman (1936); Karaman (1938); Čurčić (1939d); Taler (1945b); Morović (1948); Pušić (1948); Taler (1950c); Basioli (1952); Kovačević (1952); Taler (1953a); Jedlička (1954); Stepanek (1956); Pešić (1961); Stojnić (1965); Stepanek (1966); Anonymous (1967); Sabioncello (1967); Behnke (1968); Marko et al. (1968); Kosorić (1969); Sabioncello et al. (1970); Vuković and Ivanović (1971); Klačterka (1979); Bojčić et al. (1982); Al-Sabti (1985); Mrakovčić and Mišetić (1990a); Leiner and Povž (1993); Teskeredžić et al. (1993); Bianco (1995a); Crivelli (1995);

Mrakovčić et al. (1995); Jardas (1996); Mrakovčić et al. (1996a); Kottelat (1997); Leiner (1998b); Mrakovčić (1998); Schneider (1998); Tvrtković (1998); Habeković and Mišetić (2000); Mikavica et al. (2001); Georgiev (2003); Schöffmann (2003); Mateš (2004); Razpet (2004); Pažur (2005); Mrakovčić et al. (2006); Vardić (2006); Kottelat (2007); Kottelat and Freyhof (2007); Kapetanović et al. (2008); Valić et al. (2008); Glamuzina (2009); Bukvić et al. (2010); Glamuzina et al. (2010a); Glamuzina et al. (2010b); Pavličević et al. (2010); Glamuzina et al. (2011); Glamuzina et al. (2013); Miočić-Stošić and Kovačević (2013); Bianco (2014a); Čaleta et al. (2015); Piria et al. (2016b)

Remarks: Presence of this species in the Adriatic basin in Croatia is still uncertain, since no previous phylogenetic research was able to detect this species, even using specimens morphologically identified as *S. marmoratus*.

98. *Salmo obtusirostris* (Heckel, 1852)

Names under which the taxon was mentioned:

Obtusirostris salonitana; *Salmothymus obtusirostris* (Heckel, 1852); *Salmothymus obtusirostris krkensis* (Karaman, 1927); *Salmothymus obtusirostris obtusirostris*; *Salmothymus obtusirostris oxyrhynchus* (Steindachner, 1882); *Salmothymus obtusirostris salonitana* (Karaman, 1927); *Thymallus microlepis* Steindachner, 1874; *Trotta carpiolata*; *Trutta obtusirostris*; *Trutta obtusirostris krkensis* Karaman, 1927; *Trutta obtusirostris oxyrhynchus* Steindachner, 1882; *Trutta obtusirostris salonitana* Karaman, 1927

English name: Softmouth trout

Croatian name: mekousna

Range in Croatia: Adriatic Basin - upper course of the Jadro, Krka, Vrljika and Neretva Rivers

Literature: Grisogono (1780); Heckel (1852); Heckel and Kner (1858); Canestrini (1866); Canestrini (1874); Steindachner (1874); Steindachner (1875); Brusina (1878); Brusina (1880); Giglioli (1880); Kolombatović (1881); Steindachner (1882b); Faber (1883); Katuri (1883); Kolombatović (1886a); Kolombatović (1886b); Seeley (1886); Kolombatović (1888); Kolombatović (1895); Katuri (1896a); Petermann (1899); Kosić (1903); Brusina (1907); Katuri (1907); Kolombatović (1907); Car (1911); Čurčić (1915); Heintz (1915); Jedlička (1925); Karaman (1927); Jedlička (1928); Anonymous (1930g); Anonymous (1930e); Jelačin (1931); Rössler (1931); Karaman (1932); Mršić (1932b); Thaller (1932); Mršić (1935b); Mršić (1935c); Karaman (1938); Mršić (1938); Čurčić (1939b) (Čurčić (1939c); Morović (1948); Taler (1950c); Taler (1951a); Taler (1951b); Kovačević (1952); Taler (1952b); Taler (1952c); Uzelac (1952b); Anonymous (1953a); Čurčić (1953); Škovrlj (1953a); Škovrlj (1953b); Taler (1953a); Taler (1953f); Jedlička (1954); Taler (1954a); Taler (1954c); Taler (1954d); Stepanek (1956); Basioli (1958b); Stevanović (1960); Pešić (1961); Stevanović

(1961); Vuković (1963); Karaman (1966); Sabioncello (1967); Behnke (1968); Pažur (1969a); Sabioncello et al. (1970); Čanković et al. (1971); Vuković and Ivanović (1971); Klačterka (1979); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Tvrtković (1985); Malnar (1989); Mrakovčić (1990); Mrakovčić and Kerovec (1990a); Mrakovčić and Mišetić (1990a); Mrakovčić and Mišetić (1990b); Povž et al. (1990); Schöffmann (1991); Schöffmann (2004); Teskeredžić et al. (1993); Mrakovčić et al. (1995); Crivelli (1996); Maitland and Crivelli (1996); Kottelat (1997); Bonacci et al. (1998); Leiner (1998b); Mrakovčić (1998); Schneider (1998); Tvrtković (1998); Habeković and Pažur (2000); Mikavica et al. (2001); Odak et al. (2002); Snoj et al. (2002); Georgiev (2003); Odak et al. (2003); Schöffmann (2003); Treer et al. (2003b); Mateš (2004); Odak (2004); Razpet (2004); Treer et al. (2004); Pažur (2005); Treer et al. (2005); Mrakovčić et al. (2006); Tvrtković and Veen (2006); Kottelat and Freyhof (2007); Prpa et al. (2007); Snoj et al. (2007); Sušnik et al. (2007); Tomljanović et al. (2007); Duplić (2008); Jelić et al. (2008); Muhamedagić et al. (2008); Snoj et al. (2008); Treer et al. (2008a); Treer et al. (2008b); Valić et al. (2008); Glamuzina (2009); Treer et al. (2009); Glamuzina et al. (2010a); Glamuzina et al. (2010b); Pavličević et al. (2010); Popović (2010); Glamuzina et al. (2011); Cigrovski Mustafić (2012); Freyhof (2012); Tomljanović et al. (2012a); Glamuzina et al. (2013); Duplić (2014); Esteve et al. (2014); Pustovrh (2014); Tomljanović (2014); Čaleta et al. (2015); Mustafić and Mrakovčić (2017); Nejedli et al. (2018); Piria et al. (2018)

Remarks: reports for the Zrmanja and Cetina Rivers, and Vrgorac have not been confirmed and are likely the result of misidentification; endemic to the Adriatic Basin

UI9 *Salmo salar* Linnaeus, 1758

English name: Atlantic salmon

Croatian name: atlantski losos

Range in Croatia: Danube drainage – one specimen from the Sava River; Adriatic Basin - mouth of the Neretva and Krka Rivers

Literature: Lanza (1842); Kažić et al. (1990); Piria et al. (2018)

Remarks: non-native species; it is not known whether these are individually introduced individuals or the result of misidentification; no self-sustaining populations established

99. *Salmo trutta* Linnaeus, 1758

Names under which the taxon was mentioned: *Salar ausonii* Valenciennes, 1848; *Salmo fario* Linnaeus, 1758; *Salmo labrax* Pallas, 1814; *Salmo lacustris* Linnaeus, 1758; *Trutta fario* (Linnaeus, 1758); *Trutta likana* Karaman, 1933

English name: Brown trout

Croatian name: potočna pastrva

Range in Croatia: Danube drainage - upper course of rivers; Adriatic Basin - rivers and lakes

Literature: Taube (1777); Piller and Mitterpacher (1783); Hietzinger (1817); Seljan (1843); Schlosser (1852); Heckel and Kner (1858); Farkaš Vukotinović (1859); Steindachner (1866a); Steindachner (1866b); Šloser (1870); Brusina (1878); Jurinac (1880); Borne (1881); Kolombatović (1881); Steindachner (1882b); Faber (1883); Jurinac (1884); Kolombatović (1884); Glowacki (1885); Kesterčanek (1886); Kolombatović (1888); Zlatović (1890); Hirc (1891); Kosić (1891); Anonymous (1892); Brusina (1892); Franke (1892); Anonymous (1893b); Anonymous (1893c); Brusina (1893); Dudan (1893); Kišpatić (1893); Anonymous (1894b); Anonymous (1894f); Flögel (1894); Anonymous (1896b); Anonymous (1896c); Buchwald (1896); Glowacki (1896); Hirc (1896); Anonymous (1897b); Anonymous (1897c); Dvoržak (1897); Hirc (1897); Franić (1898); Hirc (1898); Anonymous (1899a); Drnić (1899); Hirc (1899b); Hirc (1899c); Hirc (1899e); Franić (1900); Hirc (1900a); Hirc (1900b); Horvat (1900b); Bönel (1901); Talpaš (1901); Anonymous (1903a); Langhoffer (1904); Anonymous (1905c); Trgovčević (1905b); Anonymous (1906a); Anonymous (1906c); Anonymous (1907c); Brusina (1907); Brusina (1908); RHZZM (1908); Trgovčević (1908); Anonymous (1909a); Ribić (1909); Franić (1910); Kempf (1910); Hirc (1911); Lang (1911); Anonymous (1925); Bergleitner (1925); Hirc (1925); Jedlička (1925); Telar (1925); Grloci (1926); Anonymous (1927c); Anonymous (1927f); Anonymous (1928a); Anonymous (1928d); Anonymous (1928f); Anonymous (1928g); Kaitner (1928); Wettstein (1928); Anonymous (1929c); Anonymous (1929d); Bergleitner (1929); Kaitner (1929b); Rössler (1929a); Rössler (1929b); Anonymous (1930c); Anonymous (1930g); Anonymous (1930e); Bergleitner (1930); Jedlička (1930); Rössler (1930); Trgovčević (1930); Anonymous (1931c); Anonymous (1931d); Anonymous (1931f); Anonymous (1930g); Anonymous (1931h); Rössler (1931); Taler (1931); Karaman (1932); Krajačić (1932); Kraus (1932); Mršić (1932b); Mršić (1932a); Rössler (1932); Thaller (1932); Trgovčević (1932); Anonymous (1933); Koritnik (1934); Anonymous (1935a); Anonymous (1935b); Anonymous (1935c); Anonymous (1935f); Anonymous (1935h); Anonymous (1935i); Anonymous (1935j); Hafner-Lahorski (1935a); Hafner-Lahorski (1935b); Hafner-Lahorski (1935c); Mršić (1935b); Mršić (1935c); Mršić (1935a); Plančić (1935a); Plančić (1935b); Popović (1935); Taler (1935a); Taler (1935b); Maldini (1936b); Anonymous (1937b); Lovrić (1938); Maldini (1938c); Plančić (1938); Taler (1938); Anonymous (1939); Horvat (1941); Taler (1944); Anonymous (1945); Anonymous (1946b); Bergleitner (1946); Plančić (1946); Taler (1946c); Hafner-Lahorski (1947a); Hafner-Lahorski (1947b); Anonymous (1948a); Anonymous (1948b); Taler (1948a); Taler (1948c); Taler (1948d); Taler (1948e); Anonymous (1949); Glavan (1949); Taler (1949b); Plančić

(1950); Taler (1950a); Taler (1950b); Taler (1950c); Taler (1951c); Taler (1951d); Taler (1951e); Taler (1951g); Anonymous (1952a); Anonymous (1952b); Knežević (1952); Plančić (1952c); Taler (1952a); Taler (1952d); Ćurčić (1953); Hafner-Lahorski (1953a); Plančić et al. (1953); Taler (1953a); Taler (1953b); Taler (1953e); Bogdanović (1954); Jedlička (1954); Kosorić (1955); Plančić (1956b); Plančić (1956c); Aganović (1957); Bogdanović (1957); Jagodić (1957); Anonymous (1958a); Bogdanović (1958); Kosorić (1958); Taler (1958); Bogdanović (1959); Stevanović (1960); Vuletić (1960); Bogdanović (1961); Smlatić (1961); Stevanović (1961); Knežević (1963b); Pažur (1964); Anonymous (1965b); Sabioncello (1967); Anonymus (1968); Behnke (1968); Pažur (1969c); Pažur (1969a); Pažur (1969b); Pažur (1970); Sabioncello et al. (1970); Vuković and Ivanović (1971); Štefanac (1973); Štefanac (1974); Pažur (1975); Aganović (1979); Klastar (1979); Pažur (1979); Homen and Fašaić (1981); Hrženjak and Ehrlich (1981); Bojčić et al. (1982); Popović and Fašaić (1982); Štefanac and Bunjevčić (1982); Bristol et al. (1984); Delić (1984); Ocvirk (1984); Vrenk (1984); Al-Sabti (1985); Debeljak and Fašaić (1985); Leiner (1985); Tvrtković (1985); Štefanac (1986); Lelek (1987); Kuhar and Huber (1989); Mrakovčić et al. (1989); Fašaić et al. (1990); Habeković et al. (1992); Harka (1992); Mrakovčić (1992); Habeković (1993); Teskeredžić et al. (1993); Habeković (1994a); Kolar-Dimitrijević (1994); Crivelli (1995); Pažur (1995); Mrakovčić et al. (1996b); Habeković et al. (1997); Honsig-Erlenburg et al. (1997); Kottelat (1997); Skaramuca et al. (1997); Kerovec (1998); Majer (1998); Povž et al. (1998); Leiner (1999); Mustafić (2001); Trožić-Borovac (2002); Georgiev (2003); Jugović (2004); Mateš (2004); Odak (2004); Razpet (2004); Horvat (2005); Jakirčević (2005); Mustafić (2005); Pažur (2005); Suić (2005); Šprem et al. (2005b); Mrakovčić et al. (2006); Vardić (2006); Dulčić et al. (2007); Jadan et al. (2007); Knežević (2007); Kottelat and Freyhof (2007); Prpa et al. (2007); Sallai and Mrakovčić (2007); Sušnik et al. (2007); Valić et al. (2007); Jadan (2008); Jardaš et al. (2008); Mateš (2008); Muhamedagić et al. (2008); Sallai and Kontos (2008); Treer et al. (2008a); Valić et al. (2008); Dumbović et al. (2009); Jelić et al. (2009); Treer et al. (2009); Tvrtković et al. (2009); Sofradžija (2009); Buj (2010c); Glamuzina et al. (2010a); Šafarek (2010); Valić (2010); Vardić Smrzlić (2010); Babajko (2011); Glamuzina et al. (2011); Mrakovčić and Čaleta (2011); Randić (2011); Cigrovski Mustafić (2012); Jelić et al. (2012); Marčić et al. (2012); Marčić (2013); Marr et al. (2013); Muhamedagić and Habibović (2013); Vardić et al. (2013); Pustovrh (2014); Vukosav et al. (2014); Jadan et al. (2015); Piria et al. (2016b); Piria et al. (2016c); Pofuk et al. (2017); Simonović et al. (2017a); Škraba et al. (2017); Barišić et al. (2018); Dragun et al. (2018); Piria et al. (2018); Mijošek et al. (2019)

Remarks: the genus *Salmo* is currently the subject of intensive study and the taxonomic position of individual populations is yet to be elucidated, given the early

description of a large number of species in the Dinaric region of Croatia (*S. visovacensis*, *S. zrmanjensis* and *S. likana*). The taxonomic status of the species *S. trutta* and its origin in Croatia is not fully resolved. Some authors (e.g. Kottelat & Freyhof, 2007) consider this species to be non-native in this part of Europe while recent papers (e. g. Schenekar et al. 2014) proved *S. trutta* to be native for some parts of the Danube basin. No self-sustaining populations have been established in Istria.

SALVELINUS Richardson, 1836

100. *Salvelinus alpinus* (Linnaeus, 1758)

English name: Arctic charr

Croatian name: jezerska zlatovčica

Range in Croatia: Danube drainage - introduced to the Plitvice Lakes; Adriatic Basin - Ruda River and reservoirs in the Cetina River drainage

Literature: Pažur (1970); Bristol et al. (1984); Habeković (1993); Kerovec (1998); Schneider (1998); Leiner (1999); Mateš (2004); Pažur (2005); Mrakovčić et al. (2006); Teskeredžić (2006); Tvrtković et al. (2009); Mrakovčić and Čaleta (2011); Piria et al. (2016b); Pofuk et al. (2017); Piria et al. (2018)

Remarks: non-native species

UI10 *Salvelinus fontinalis* (Mitchill, 1814)

English name: Brook trout

Croatian name: potočna zlatovčica

Literature: Pešić (1961); Majer (1998); Mrakovčić et al. (2006); Vardić et al. (2007); Sallai (2008); Sallai and Kontos (2008); Jelić et al. (2012); Marr et al. (2013); Piria et al. (2016b); Pofuk et al. (2017); Piria et al. (2018)

Remarks: non-native species, no self-sustaining populations established. Not certain that it inhabits Croatian waters.

THYMALLUS Cuvier, 1829

101. *Thymallus thymallus* (Linnaeus, 1758)

Names under which the taxon was mentioned: *Thymallus vexillifer* Fitzinger, 1832; *Thymallus vexillifer* Perty, 1832; *Thymallus vexillifer* Agassiz, 1839-40; *Thymallus vulgaris* Nilsson, 1832

English name: Grayling

Croatian name: lipljen

Range in Croatia: Danube drainage - upper course of the Una and Kupa River systems; Adriatic Basin - introduced to the Gacka, Cetina, Ruda and Neretva Rivers

Literature: Canestrini (1866); Steindachner (1866b); Canestrini (1874); Sebišanović (1880); Borne (1881); Faber (1883); Anonymous (1886); Kesterčanek (1886); Seeley

(1886); Mojsisovics (1889); Franke (1892); Brusina (1893); Dudan (1893); Kišpatić (1893); Glowacki (1896); Hirc (1896); Hirc (1897); Hirc (1898); Hirc (1898); Hirc (1899a); Hirc (1900a); Horvat (1900d); Medić (1901b); Anonymous (1904); Langhoffer (1904); Brusina (1907); RHZZM (1908); Vutskits (1918); Anonymous (1925); Bergleitner (1925); Anonymous (1927a); Anonymous (1928d); Bergleitner (1928); Anonymous (1930); Rössler (1930); Berg (1932a); Mršić (1932a); Koritnik (1934); Taler (1935b); Gridelli (1936); Maldini (1936b); Anonymous (1937b); Lovrić (1938); Bergleitner (1940); Taler (1944); Taler (1945b); Taler (1945a); Taler (1951b); Plančić (1952b); Taler (1953a); Kosorić (1955); Jagodić (1957); Sabioncello (1962); Smlatić (1961); Sabioncello (1967); Pažur (1969a); Sabioncello et al. (1970); Vuković and Ivanović (1971); Koritnik (1973); Štefanac (1973); Klašterka (1979); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Ocvirk (1984); Vrenk (1984); Leiner (1985); Tvrtković (1985); Lelek (1987); Habeković (1993); Teskeredžić et al. (1993); Habeković (1994a); Crivelli (1995); Mrakovčić et al. (1995); Mrakovčić et al. (1996b); Honsig-Erlenburg et al. (1997); Kerovec (1998); Majer (1998); Povž et al. (1998); Schneider (1998); Habeković and Mišetić (2000); Mikavica et al. (2001); Mustafić (2001); Delić et al. (2003a); Georgiev (2003); Jakirčević (2005); Mustafić (2005); Pažur (2005); Šprem et al. (2005a); Šprem et al. (2005b); Mrakovčić et al. (2006); Kottelat and Freyhof (2007); Prpa et al. (2007); Sallai and Mrakovčić (2007); Mateš (2008); Muhamedagić et al. (2008); Sallai and Kontos (2008); Treer et al. (2008a); Valić et al. (2008); Treer et al. (2009); Tvrtković et al. (2009); Sofradžija (2009); Bučar et al. (2010); Mrakovčić and Čaleta (2011); Piria et al. (2016b); Pofuk et al. (2017); Nedić et al. (2018); Piria et al. (2018)

Remarks: non-native in the Adriatic Basin, in Istria there are no self-sustaining populations

2.8. ORDER: GADIFORMES

2.8.1. FAMILY: LOTIDAE Bonaparte, 1835

LOTA Oken, 1817

102. *Lota lota* (Linnaeus, 1758)

Names under which the taxon was mentioned: *Lota vulgaris* Fitzinger, 1832

English name: Burbot

Croatian name: manjić

Range in Croatia: Danube drainage - middle and lower course of rivers

Literature: Heckel and Kner (1858); Jurinac (1880); Sebišanović (1880); Sebišanović (1881); Mojsisovics (1883); Jurinac (1884); Mojsisovics (1884); Glowacki (1885); Anonymous (1886); Kesterčanek (1886); Jurinac (1887); Hefe (1889); Sebišanović (1890); Brusina (1892); Brusina (1893); Dudan (1893); Kišpatić (1893); Glowacki (1896); Hirc (1896); Medić (1896); Hirc (1897); Medić

(1901b); RHZZM (1908); Čurčić (1910); Kempf (1910); Lang (1911); Vutskits (1918); Plančić (1920); Plančić (1923a); Anonymous (1931c); Čurčić (1933); Maldini (1936a); Pešić (1955); Sabioncello (1967); Vuković and Ivanović (1971); Klašterka (1979); Mikuska (1979); Bojčić et al. (1982); Veljović (1982); Mikuska (1983a); Mikuska (1983b); Tvrtković (1985); Veljović (1985); Habeković et al. (1986); Bojčić (1987); Lelek (1987); Mrakovčić (1992); Delić (1993); Mrakovčić et al. (1996b); Mustafić (2001); Mrakovčić et al. (2002); Delić et al. (2003a); Jugović (2004); Jakirčević (2005); Mustafić (2005); Pažur (2005); Sallai and Kontos (2005); Mrakovčić et al. (2006); Čaleta (2007); Kottelat and Freyhof (2007); Sallai and Mrakovčić (2007); Mateš (2008); Sallai and Kontos (2008); Sevcsik and Erös (2008); Delić et al. (2009); Dumbović et al. (2009); Sofradžija (2009); Bučar et al. (2010); Buj (2010c); Jelkić et al. (2010); Ozimec et al. (2010); Jelić et al. (2012); Šanda et al. (2013); Zrnčić et al. (2013); Delić et al. (2014a); Piria et al. (2016a); Simonović et al. (2017b)

2.9. ORDER: GOBIIFORMES

FAMILY: ODONTOBUTIDAE Hoese & Gill, 1993

PERCCOTTUS Dybowski, 1877

UI11 *Perccottus glenii* Dybowski, 1877

English name: Rotan

Croatian name: rotan

Range in Croatia: Danube drainage - channel of the Sava River near Slavonski Brod

Literature: Čaleta et al. (2011b); Piria et al. (2016b); Piria et al. (2018)

Remarks: non-native, invasive species; one recorded individual, no self-sustaining populations established

2.9.1. FAMILY: GOBIIDAE Cuvier, 1816

BABKA Iljin, 1927

103. *Babka gymnotrachelus* (Kessler, 1857)

Names under which the taxon was mentioned: *Gobius gymnotrachelus* Kessler, 1857; *Neogobius gymnotrachelus* (Kessler, 1857)

English name: Racer goby

Croatian name: glavočić trkač

Range in Croatia: Danube drainage

Literature: Mojsisovics (1887); Polačik et al. (2008); Mustafić (2013); Šanda et al. (2013); Piria et al. (2016b); Nedić et al. (2018)

Remarks: non-native, invasive species

KNIPOWITSCHIA Iljin, 1927

104. *Knipowitschia mrakovcici* Miller, 2009

Names under which the taxon was mentioned:

Knipowitschia panizzae (Verga, 1841); *Knipowitschia* sp.

English name: Visovac goby

Croatian name: visovački glavočić

Range in Croatia: Adriatic Basin - Krka River drainage

Literature: Grisogono (1780); Miller (1990); Mrakovčić and Mišetić (1990a); Mrakovčić et al. (1995); Crivelli (1996); Maitland and Crivelli (1996); Mrakovčić et al. (2006); Valić (2006); Kottelat and Freyhof (2007); Duplić (2008); Jelić et al. (2008); Miller (2009); Freyhof (2011); Freyhof (2012); Vanhove et al. (2012); Čaleta et al. (2015); Thacker et al. (2019)

Remarks: stenoendemic to the Krka River drainage and endemic to the Adriatic Basin and Croatia, species status is questioned in some recent papers

105. *Knipowitschia panizzae* (Verga, 1841)

Names under which the taxon was mentioned:

Padogobius pannizai (Verga, 1841)

English name: Adriatic dwarf goby

Croatian name: glavočić vodenjak

Range in Croatia: Adriatic Basin - river mouths along the coast

Literature: Morović (1962); Sabioncello et al. (1964); Habeković (1967); Vuković and Ivanović (1971); Bojčić et al. (1982); Povž et al. (1990); Jardas (1996); Leiner (1998b); Kovačić and Pallaoro (2003); Miller (2004d); Zerunian (2004); Matić-Skoko et al. (2005); Mustafić (2005); Dulčić et al. (2007); Kottelat and Freyhof (2007); Kovačić (2008); Tvrtković et al. (2009); Sofradžija (2009); Tvrtković et al. (2009); Šanda and Kovačić (2009); Lipej and Dulčić (2010); Glamuzina et al. (2013); Čaleta et al. (2015); Piria et al. (2016b); Vukić et al. (2016); Mustafić et al. (2017); Vukić et al. (2017); Thacker et al. (2019)

Remarks: endemic to the Adriatic Basin and the Adriatic Sea, reports of *K. caucasica* for Adriatic basin are result of misidentification and belong to *K. panizzae*

106. *Knipowitschia radovici* Kovačić, 2005

English name: Norin goby

Croatian name: norinski glavočić

Range in Croatia: Adriatic Basin – lower part of the Neretva River drainage

Literature: Kovačić (2005a); Mrakovčić et al. (2006); Kottelat and Freyhof (2007); Duplić (2008); Jelić et al. (2008); Glamuzina et al. (2010b); Freyhof (2011); Freyhof (2012); Vanhove et al. (2012); Glamuzina et al. (2013); Čaleta et al. (2015); Thacker et al. (2019)

Remarks: endemic to the Neretva River drainage, endemic to the Adriatic Basin, species status is questioned in some recent papers

NEOGOBIUS Iljin, 1927

107. *Neogobius fluviatilis* (Pallas, 1814)

Names under which the taxon was mentioned: *Gobius fluviatilis* Pallas, 1814

English name: Monkey goby

Croatian name: riječni glavočić

Range in Croatia: Danube drainage - introduced to the Drava, Danube and Sava Rivers and their tributaries drainage

Literature: Vuković and Ivanović (1971); Lelek (1987); Mrakovčić et al. (2002); Mustafić (2005); Mrakovčić et al. (2006); Čaleta (2007); Sallai and Mrakovčić (2007); Polačik et al. (2008); Sallai and Kontos (2008); Dumbović et al. (2009); Sofradžija (2009); Piria et al. (2011b); Jelić et al. (2012); Djikanović et al. (2013); Nedić et al. (2014a); Nedić et al. (2014b); Delić et al. (2014a); Riđanović et al. (2014); Jakšić (2016); Jakšić et al. (2016); Jakovlić et al. (2015); Piria et al. (2016a); Piria et al. (2016b); Simonović et al. (2017b); Piria et al. (2018)

Remarks: non-native, invasive species

108. *Neogobius melanostomus* (Pallas, 1814)

Names under which the taxon was mentioned: *Gobius melanostomus* Pallas, 1814

English name: Round goby

Croatian name: glavočić okrugljak

Range in Croatia: Danube drainage - introduced to the Drava, Danube and Sava Rivers and their tributaries

Literature: Mojsisovics (1887); Mustafić (2005); Mrakovčić et al. (2006); Kottelat and Freyhof (2007); Polačik et al. (2008); Piria et al. (2011c); Šanda et al. (2013); Jakšić (2016); Jakšić et al. (2016); Jakovlić et al. (2015); Piria et al. (2016a); Piria et al. (2016b); Simonović et al. (2017b)

Remarks: non-native, invasive species

NINNIGOBIUS Whitley, 1951

109. *Ninnigobius canestrinii* (Ninni, 1883)

Names under which the taxon was mentioned: *Gobius canestrinii* Ninni, 1883; *Pomatoschistus canestrinii* (Ninni, 1883); *Pomatoschistus marmoratus* (Risso, 1810)

English name: Canestrini's goby

Croatian name: glavočić crnotrus

Range in Croatia: Adriatic Basin - river mouths along the coast

Literature: Ninni (1883); Kolombatović (1884);

Kolombatović (1886a); Kolombatović (1888); Carus (1889-1893); Kolombatović (1891); Kolombatović (1907); RHZZM (1908); Taler (1953a); Sabioncello (1967); Vuković and Ivanović (1971); Bojčić et al. (1982); Jardas (1996); Holčik and Mrakovčić (1997); Kottelat (1997); Leiner (1998b); Nocita and Vanni (1997); Mrakovčić et al. (2000a); Miller (2004b); Zerunian (2004); Kovačić (2005b); Matić-Skoko et al. (2005); Mustafić (2005); Mrakovčić et al. (2006); Kottelat and Freyhof (2007); Jelić et al. (2008); Kovačić (2008); Miller and Šanda (2008); Tvrtković et al. (2009); Sofradžija (2009); Šanda and Kovačić (2009); Tutman et al. (2010); Freyhof (2011); Mrakovčić and Čaleta (2011); Vanhove et al. (2012); Glamuzina et al. (2013); Bianco (2014a); Bianco (2014b); Čaleta et al. (2015); Jelić et al. (2016); Piria et al. (2016b)

Remarks: endemic to the Adriatic Basin and to the Adriatic Sea

ORSINIGOBIUS Gandolfi, Marconato & Torricelli, 1986

110. *Orsinigobius croaticus* Mrakovčić, Kerovec, Mišetić & Schneider, 1994

Names under which the taxon was mentioned:

Gobius punctatissimus Canestrini, 1864; *Knipowitschia punctatissima* (Canestrini, 1864); *Knipowitschia punctatissima croatica* Mrakovcic, Kerovec, Misetic & Schneider, 1996; *Knipowitschia croatica* Mrakovcic, Kerovec, Misetic & Schneider, 1996; *Padogobius panizzai* (Verga, 1841)

English name: Neretva dwarf goby

Croatian name: vrgoračka gobica

Range in Croatia: Adriatic Basin – Neretva River, Baćinska Lakes and Matica River near Vrgorac

Literature: Kolombatović (1895); Kolombatović (1907); Taler (1953a); Mrakovčić et al. (1994a); Mrakovčić et al. (1994b); Crivelli (1996); Mrakovčić et al. (1996a); Holčik and Mrakovčić (1997); Leiner (1998b); Schneider (1998); Tvrtković (1998); Mrakovčić et al. (2000a); Tutman et al. (2002); Tvrtković and Franičević (2002); Miller (2004c); Miller (2004e); Zerunian (2004); Mrakovčić et al. (2006); Kottelat and Freyhof (2007); Duplić (2008); Jelić et al. (2008); Valić et al. (2008); Šanda and Kovačić (2009); Popović (2010); Mrakovčić and Čaleta (2011); Zanella et al. (2011); Freyhof (2012); Vanhove et al. (2012); Glamuzina et al. (2013); Čaleta et al. (2015); Mustafić and Mrakovčić (2017); Thacker et al. (2019)

Remarks: endemic to the Neretva River drainage and to the Adriatic Basin

PADOGOBIUS Berg, 1932

111. *Padogobius bonelli* (Bonaparte, 1846)

Names under which the taxon was mentioned:

Padogobius martensii (Günther, 1861); *Padogobius panizzae* Berg, 1931

English name: Padanian goby

Croatian name: slatkovodni glavočić

Range in Croatia: Adriatic Basin - Mirna, Raša and Zrmanja River drainages, Vransko Lake near Biograd, introduced to the Ričica River in the Lika region

Literature: Anonymous (1967); Leiner (1985); Bianco and Miller (1990); Leiner and Povž (1993); Leiner (1994); Leiner and Povž (1994); Leiner et al. (1995); Mrakovčić et al. (1995); Crivelli (1996); Mrakovčić et al. (1996a); Schneider (1998); Mrakovčić et al. (2000b); Miller (2004f); Zerunian (2004); Mrakovčić et al. (2006); Kottelat and Freyhof (2007); Šanda and Kovačić (2009); Freyhof (2011); Miočić-Stošić and Kovačević (2013); Bianco (2014a); Bianco (2014b); Čaleta et al. (2015); Jelić et al. (2016); Piria et al. (2016b)

Remarks: non-native in the Ričica River system in the Lika region; reports for the Krka River have not been confirmed; endemic to the Adriatic Basin

PONTICOLA Iljin, 1927

112. *Ponticola kessleri* (Günther 1861)

Names under which the taxon was mentioned: *Gobius kessleri* Günther, 1861; *Neogobius kessleri* (Günther, 1861)

English name: Bighead goby

Croatian name: keslerov galvočić

Range in Croatia: Danube drainage - introduced to Drava, Danube and Sava Rivers

Literature: Vuković and Ivanović (1971); Mustafić (2005); Mrakovčić et al. (2006); Kottelat and Freyhof (2007); Polačik et al. (2008); Sofradžija (2009); Jelić et al. (2012); Šanda et al. (2013); Jakšić (2016); Jakšić et al. (2016); Jakovlić et al. (2015); Piria et al. (2016a); Piria et al. (2016b); Piria et al. (2018)

Remarks: non-native, invasive species

PROTERORHINUS Smitt, 1900

113. *Proterorhinus semilunaris* (Heckel, 1839)

Names under which the taxon was mentioned:

Proterorhinus marmoratus (Pallas, 1814)

English name: Western tubenose goby

Croatian name: mramorasti glavočić

Range in Croatia: Danube drainage - Drava, Danube and Sava Rivers

Literature: Karaman (1952); Sabioncello (1967); Vuković and Ivanović (1971); Mikuska (1979); Mikuska (1983a); Mikuska (1983b); Mrakovčić et al. (1996b); Majer (1998); Miller (2004a); Mustafić (2005); Sallai and Kontos (2005); Mrakovčić et al. (2006); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Sofradžija (2009); Jelić et al. (2012); Piria et al. (2018)

2.10. ORDER: PLEURONECTIFORMES

2.10.1. FAMILY: PLEURONECTIDAE Rafinesque, 1815

PLATICHTHYS Girard, 1856

114. *Platichthys flesus* Linnaeus, 1758

English name: European flounder

Croatian name: iverak

Range in Croatia: Adriatic Basin - river mouths, lagoons and lakes connected to the sea along the coast

Literature: Kosić (1903); Lorini (1921); Morović (1947); Morović (1948); Taler (1953a); Basioli (1957a); Basioli (1958a); Marčić Brusina (1963); Morović (1963); Morović (1976); Morović (1978); Bojčić et al. (1982); Jardas (1996); Leiner (1998b); Mikavica et al. (2001); Kottelat and Freyhof (2007); Jardas et al. (2008); Sofradžija (2009); Lipej and Dulčić (2010); Tutman et al. (2010); Glamuzina et al. (2013)

Remarks: euryhaline species that occasionally enters freshwater

ORDER: CICHLIFORMES

FAMILY: CICHLIDAE Bonaparte, 1835

OREOCHROMIS Günther, 1889

UI12 *Oreochromis niloticus* (Linnaeus, 1758)

English name: Nile tilapia

Croatian name: nilska tilapia

Range in Croatia: Danube drainage - Lonjsko Field

Literature: Duplić and Boršić (2010); Povž and Gregori (2014); Piria et al. (2018)

Remarks: non-native species; individual reports without the establishment of self-sustaining populations

2.11. ORDER: CYPRINODONTIFORMES

2.11.1. FAMILY: CYPRINODONTIDAE Wagner, 1828

APHANIUS Nardo, 1827

115. *Aphanius fasciatus* (Valenciennes, 1821)

Names under which the taxon was mentioned: *Cyprinodon calaritanus* (Cuvier, 1829); *Lebias calaritana* (Cuvier, 1829)

English name: Mediterranean toothcarp

Croatian name: obrvan

Range in Croatia: Adriatic Basin - mostly saline habitats along the Adriatic coast

Literature: Bonaparte (1846); Canestrini (1866); Kolombatović (1886a); Kolombatović (1886b); Kolombatović (1893); Car (1900); Langhoffer (1904); Brusina (1907); Vuković and Ivanović (1971); Bojčić et al. (1982); Crivelli (1996); Jardas (1996); Pallaoro (1998);

Matić-Skoko et al. (2005); Dulčić and Glamuzina (2006); Mrakovčić et al. (2006); Kottelat and Freyhof (2007); Jardas et al. (2008); Lipej and Dulčić (2010); Glamuzina et al. (2013); Buj et al. (2015b); Landeka et al. (2015); Marčić et al. (2015); Piria et al. (2016b); Mustafić et al. (2017)

2.11.2. FAMILY: POECILIIDAE Bonaparte, 1835

GAMBUSIA Poey, 1854

116. *Gambusia holbrooki* Girard, 1859

Names under which the taxon was mentioned: *Gambusia affinis* (Baird & Girard 1853); *Gambusia affinis holbrooki* (Girard, 1859)

English name: Eastern mosquitofish

Croatian name: gambuzija

Range in Croatia: Danube drainage - introduced to the Savica Lakes in the Sava River system in Zagreb; Adriatic Basin - introduced to rivers, lakes and ponds

Literature: Gioseffi (1926); Anonymous (1927e); Sella (1927); Sella (1928); Sella (1929); Anonymous (1934); Gridelli (1936); Dojmi (1938); Nežić (1938); Plančić (1948); Tutman (1948); Morović (1964a); Sabioncello et al. (1964); Anonymous (1965b); Habeković (1967); Sabioncello (1967); Morović (1970); Vuković and Ivanović (1971); Morović (1976); Bojčić et al. (1982); Leiner (1984); Treer et al. (1984); Leiner (1985); Tvrtković (1985); Treer (1989); Fašaić et al. (1990); Mrakovčić and Mišetić (1990a); Habeković (1993); Leiner and Povž (1993); Leiner and Povž (1994); Crivelli (1995); Leiner et al. (1995); Mrakovčić et al. (1995); Maitland and Crivelli (1996); Mrakovčić et al. (1996a); Holčík and Mrakovčić (1997); Bonacci et al. (1998); Kerovec (1998); Leiner (1998b); Schneider (1998); Mrakovčić et al. (2000a); Mikavica et al. (2001); Bakić (2006); Dulčić and Glamuzina (2006); Mrakovčić et al. (2006); Dulčić et al. (2007); Duplić (2008); Jakšić et al. (2008); Marguš (2008); Tvrtković et al. (2009); Bakić (2011); Mrakovčić and Čaleta (2011); Treer et al. (2011); Glamuzina et al. (2013); Lucu and Marsoni (2013); Marr et al. (2013); Miočić-Stošić and Kovačević (2013); Radošević (2013); Landeka et al. (2015); Piria et al. (2016b); Mustafić et al. (2017); Pofuk et al. (2017); Piria et al. (2018)

Remarks: non-native species; reports of *G. affinis* in Istria have not been confirmed

2.12. ORDER: MUGILIFORMES

2.12.1. FAMILY: MUGILIDAE Jarocki, 1822

CHELON Artedi, 1793

117. *Chelon labrosus* (Risso, 1827)

Names under which the taxon was mentioned: *Mugil chelo* Cuvier, 1829; *Crenimugil labrasus* (Risso, 1827); *Mugil labrosus* Risso, 1827

English name: Thicklip Grey Mullet

Croatian name: cipal putnik

Range in Croatia: Adriatic Basin - river mouths, lagoons and lakes connected to the sea along the coast

Literature: Kolombatović (1881); Kišpatić (1893); Katuriđ (1907); Šoljan (1931); Morović (1956a); Morović (1956b); Morović (1962); Morović (1963); Morović (1964b); Sabioncello et al. (1964); Habeković (1967); Sabioncello (1967); Morović (1976); Bojčić et al. (1982); Treer (1989); Jardas (1996); Leiner (1998b); Dulčić and Glamuzina (2006); Kottelat and Freyhof (2007); Sofradžija (2009); Glamuzina and Bartulović (2010); Lipej and Dulčić (2010); Tutman et al. (2010); Glamuzina et al. (2013)

Remarks: euryhaline species that occasionally enters freshwater

LIZA Jordan & Swain, 1884

118. *Liza aurata* (Risso, 1810)

Names under which the taxon was mentioned: *Mugil auratus* Risso, 1810

English name: Golden Grey Mullet

Croatian name: cipal zlatac (zlatar)

Range in Croatia: Adriatic Basin - river mouths, lagoons and lakes connected to the sea along the coast

Literature: Kišpatić (1893); Morović (1948); Basioli (1952); Morović (1956a); Morović (1956b); Morović (1956c); Basioli (1957a); Basioli (1958a); Morović (1962); Morović (1963); Morović (1964a); Morović (1964b); Sabioncello et al. (1964); Habeković (1967); Morović (1967); Morović (1976); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Treer (1989); Jardas (1996); Kraljević and Dulčić (1996); Leiner (1998b); Mustafić (2005); Dulčić and Glamuzina (2006); Kottelat and Freyhof (2007); Valić et al. (2007); Sofradžija (2009); Tvrtković et al. (2009); Bartulović et al. (2010); Glamuzina and Bartulović (2010); Lipej and Dulčić (2010); Tutman et al. (2010); Mrakovčić and Čaleta (2011); Šiljeg (2012); Glamuzina et al. (2013)

Remarks: euryhaline species that occasionally enters freshwater

119. *Liza ramada* (Risso, 1827)

Names under which the taxon was mentioned: *Mugil capito* Cuvier, 1829; *Mugil ramada* Risso, 1827

English name: Thin-lipped grey mullet

Croatian name: cipal balavac

Range in Croatia: Adriatic Basin - river mouths, lagoons and lakes connected to the sea along the coast

Literature: Carrara (1846); Kišpatić (1893); Car (1911); Morović (1956a); Morović (1956b); Morović (1962); Morović (1963); Morović (1964a); Morović (1964b); Sabioncello et al. (1964); Habeković (1967); Morović

(1967); Morović (1976); Bojčić et al. (1982); Bojčić (1987); Treer (1989); Jardas (1996); Leiner (1998b); Mrakovčić et al. (2000a); Dulčić and Glamuzina (2006); Bartulović et al. (2007); Kottelat and Freyhof (2007); Sofradžija (2009); Glamuzina and Bartulović (2010); Lipej and Dulčić (2010); Tutman et al. (2010); Šiljeg (2012); Glamuzina et al. (2013)

Remarks: euryhaline species that occasionally enters freshwater

120. *Liza saliens* (Risso, 1810)

Names under which the taxon was mentioned: *Mugil saliens* Risso, 1810

English name: Leaping mullet

Croatian name: cipal dugaš

Range in Croatia: Adriatic Basin - river mouths, lagoons and lakes connected to the sea along the coast

Literature: Carrara (1846); Kišpatić (1893); Morović (1948); Basioli (1952); Morović (1956a); Morović (1956b); Basioli (1957a); Basioli (1958a); Morović (1962); Morović (1963); Morović (1964b); Sabioncello et al. (1964); Habeković (1967); Morović (1976); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Treer (1989); Leiner (1998b); Jardas (1996); Dulčić and Glamuzina (2006); Kottelat and Freyhof (2007); Sofradžija (2009); Glamuzina and Bartulović (2010); Lipej and Dulčić (2010); Tutman et al. (2010); Glamuzina et al. (2013)

Remarks: euryhaline species that occasionally enters freshwater

MUGIL Linnaeus, 1758

121. *Mugil cephalus* Linnaeus, 1758

English name: Flathead mullet

Croatian name: cipal bataš (glavaš)

Range in Croatia: Adriatic Basin - river mouths, lagoons and lakes connected to the sea along the coast

Literature: Lanza (1842); Carrara (1846); Kišpatić (1893); Šoljan (1931); Morović (1947); Morović (1948); Fijan (1951a); Basioli (1952); Morović (1956a); Morović (1956b); Morović (1956c); Basioli (1957b); Basioli (1958a); Morović (1962); Morović (1963); Anonymous (1964); Morović (1964a); Morović (1964b); Sabioncello et al. (1964); Habeković (1967); Morović (1967); Morović (1976); Morović (1978); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Bojčić (1987); Treer (1989); Jardas (1996); Tvrtković (1998); Leiner (1998b); Mrakovčić et al. (2000a); Mikavica et al. (2001); Treer et al. (2003c); Dulčić and Glamuzina (2006); Kottelat and Freyhof (2007); Muhamedagić et al. (2008); Sofradžija (2009); Bartulović et al. (2010); Bukvić et al. (2010); Dulčić and Glamuzina (2010); Glamuzina (2010); Glamuzina and Bartulović (2010); Lipej and Dulčić (2010); Marević (2010); Tutman et al. (2010); Glamuzina et al. (2013)

Remarks: euryhaline species that occasionally enters freshwater

OEDALECHILUS Fowler, 1903

122. *Oedalechilus labeo* Cuvier, 1829

Names under which the taxon was mentioned: *Mugil labeo* Cuvier, 1829

English name: Boxlip mullet

Croatian name: cipal plutaš

Range in Croatia: Adriatic Basin - river mouths, lagoons and lakes connected to the sea along the coast

Literature: Kosić (1899); Kišpatić (1893); Morović (1956a); Morović (1956a); Morović (1956b); Bojčić et al. (1982); Jardas (1996); Lipej and Dulčić (2010); Tutman et al. (2010)

Remarks: euryhaline species that occasionally enters freshwater

2.13. ORDER: BLENNIIFORMES

2.13.1. FAMILY: BLENNIIDAE Rafinesque, 1810

SALARIA Forsskål, 1775

123. *Salaria fluviatilis* (Asso y del Rio, 1801)

Names under which the taxon was mentioned: *Blennius cagnota* Valenciennes, 1836; *Blennius fluviatilis* Asso, 1801; *Blennius pavo* Risso, 1810; *Blennius Petteri* Heckel & Kner, 1858; *Blennius sanguinolentus* Pallas, 1814; *Blennius vulgaris* Pollini, 1816; *Lipophrys fluviatilis* (Asso, 1801)

English name: Freshwater blenny

Croatian name: riječna babica

Range in Croatia: Adriatic Basin - Zrmanja, Krka, Cetina and Neretva River drainages, Vransko Lake near Biograd, Baćinska Lakes

Literature: Carrara (1846); Heckel and Kner (1858); Kolombatović (1886a); Kolombatović (1886b); Seeley (1886); Kolombatović (1888); Kolombatović (1892); Kišpatić (1893); Katuri (1907); Kolombatović (1907); Katuri (1908); Plančić (1952d); Taler (1953a); Basioli (1960); Morović (1962); Vuković (1963); Sabioncello et al. (1964); Sabioncello (1967); Morović (1970); Vuković and Ivanović (1971); Bojčić et al. (1982); Treer (1989); Fašaić et al. (1990); Mrakovčić and Mišetić (1990a); Habeković (1993); Mrakovčić et al. (1995); Crivelli (1996); Jardas (1996); Maitland and Crivelli (1996); Holčík and Mrakovčić (1997); Kottelat (1997); Kerovec (1998); Leiner (1998b); Pallaoro (1998); Schneider (1998); Mrakovčić et al. (2000a); Bath (2003); Mustafić (2005); Mrakovčić et al. (2006); Valić (2006); Kottelat and Freyhof (2007); Marguš (2008); Tvrtković et al. (2009); Sofradžija (2009); Glamuzina et al. (2010b); Mrakovčić and Čaleta (2011); Glamuzina et al. (2013); Miočić-Stošić and Kovačević (2013); Jelić et al. (2016); Piria et al. (2016c); Mustafić et al. (2017)

Remarks: introduced to Ričica River (Lika region) from the Zrmanja River

2.14. ORDER: SCORPAENIFORMES

2.14.1. FAMILY: COTTIDAE Bonaparte, 1831

COTTUS Linnaeus, 1758

124. *Cottus gobio* Linnaeus, 1758

Names under which the taxon was mentioned: *Cottus poecilopus* Heckel, 1838; *Cottus ferrugineus* Bonaparte, 1846; *Cottus ferrugineus* Heckel & Kner, 1858; *Cottus gobio ferrugineus*

English name: Bullhead

Croatian name: peš

Range in Croatia: Danube drainage - upper course of tributaries; Adriatic Basin - Zrmanja, Krka and Neretva River drainages

Literature: Piller and Mitterpacher (1783); Carrara (1846); Heckel and Kner (1858); Steindachner (1866a); Brusina (1874); Brusina (1878); Jurinac (1880); Jurinac (1884); Glowacki (1885); Jurinac (1886a); Kolombatović (1886a); Seeley (1886); Mojsisovics (1887); Kolombatović (1888); Brusina (1889); Brusina (1892); Kišpatić (1893); Glowacki (1896); Hirc (1896); Hirc (1897); Hirc (1898); Hirc (1899c); Hirc (1900a); Langhoffer (1904); Brusina (1907); Katuri (1907); Kolombatović (1907); RHZZM (1908); Lang (1911); Vutskits (1918); Karaman (1923b); Anonymous (1925); Bergleitner (1925); Karaman (1928); Rössler (1930); Rössler (1931); Fink (1932b); Rössler (1932); Koritnik (1934); Maldini (1935c); Taler (1935a); Taler (1935b); Maldini (1938b); Taler (1953a); Kosorić (1955); Stepanek (1956); Smlatić (1961); Anonymous (1967); Sabioncello (1967); Sabioncello et al. (1969); Pažur (1970); Vuković and Ivanović (1971); Klačterka (1979); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Tvrtković (1985); Habeković et al. (1986); Lelek (1987); Mrakovčić (1992); Mrakovčić et al. (1995); Mrakovčić et al. (1996b); Honsig-Erlenburg et al. (1997); Kottelat (1997); Leiner (1998b); Leiner (1998a); Majer (1998); Povž et al. (1998); Schneider (1998); Mikavica et al. (2001); Mustafić (2001); Delić et al. (2003a); Šlechtová et al. (2004); Zerunian (2004); Freyhof et al. (2005b); Mustafić (2005); Sallai and Kontos (2005); Mrakovčić et al. (2006); Kottelat and Freyhof (2007); Prpa et al. (2007); Sallai and Mrakovčić (2007); Jelić et al. (2008); Muhamedagić et al. (2008); Sallai and Kontos (2008); Sevcsik and Erös (2008); Treer et al. (2008a); Dumbović et al. (2009); Jelić et al. (2009); Sofradžija (2009); Treer et al. (2009); Bučar et al. (2010); Buj (2010c); Jelkić et al. (2010); Perović and Tvrtković (2010); Babajko (2011); Ištók (2011); Jelić et al. (2012); Jelić (2012); Miočić-Stošić and Kovačević (2013); Bianco (2014a); Piria et al. (2016c)

Remarks: the population from the Zrmanje River was described as *C. ferrugineus*, though molecular studies

(Šlechtová et al. 2004) have indicated its similarity to *C. gobio*, and therefore *C. ferrugineus* is not listed as a separate species.

2.15. ORDER: PERCIFORMES

2.15.1. FAMILY: MORONIDAE Jordan & Evermann, 1896

DICENATRARCHUS Gill, 1860

125. *Dicentrarchus labrax* Linnaeus, 1758

English name: European sea bass

Croatian name: lubin, brancin

Range in Croatia: Adriatic Basin - river mouths, lagoons and lakes connected to the sea along the coast

Literature: Grisogono (1780); Lanza (1842); Anonymous (1906a); Lorini (1921); Šoljan (1931); Morović (1947); Morović (1948); Šoljan (1948); Basioli (1952); Kovačević (1952); Plančić (1952c); Taler (1953a); Basioli (1957a); Basioli (1958a); Grce (1959); Basioli (1960); Morović (1962); Marčić Brusina (1963); Morović (1963); Vuković (1963); Sabioncello et al. (1964); Habeković (1967); Vuković and Ivanović (1971); Morović (1976); Bojčić et al. (1982); Jardas (1996); Treer et al. (1989); Leiner (1998b); Schneider (1998); Kottelat and Freyhof (2007); Sofradžija (2009); Lipej and Dulčić (2010); Tutman et al. (2010); Glamuzina et al. (2013)

Remarks: euryhaline species that occasionally enters freshwater

MORONE Mitchill, 1814

UI13 *Morone saxatilis* x *Morone chrysops*

Hybrid of a striped bass (*Morone saxatilis*) female and a white bass (*M. chrysops*) male

English name: Palmetto bass

Croatian name: palmetto grgeč

Range in Croatia: Danube drainage - introduced to the Danube River

Literature: Safner et al. (2013); Piria et al. (2016b); Piria et al. (2018)

Remarks: non-native species; one individual recorded in the Danube River

2.15.2. FAMILY: CENTRARCHIDAE Regan, 1913

LEPOMIS Rafinesque, 1819

126. *Lepomis gibbosus* (Linnaeus, 1758)

Names under which the taxon was mentioned: *Eupomotis gibbosus* (Linnaeus, 1758)

English name: Pumpkinseed

Croatian name: sunčanica

Range in Croatia: Danube drainage and Adriatic Basin - introduced to rivers, lakes and reservoirs

Literature: Kempf (1910); Plančić (1920); Anonymous (1925); Anonymous (1946a); Taler (1947); Taler (1951e); Karaman (1952); Taler (1953a); Plančić (1955); Grce (1956); Grce (1957); Grce (1959); Vuletić (1960); Livojević (1962a); Livojević (1962b); Morović (1962); Morović (1964a); Sabioncello et al. (1964); Morović (1967); Sabioncello (1967); Pažur (1968a); Zobundžija (1968); Vuković and Ivanović (1971); Čanadjija (1977); Klačterka (1979); Mikuska (1979); Bojčić et al. (1982); Veljović (1982); Mikuska (1983a); Mikuska (1983b); Mikuska and Mamić (1984); Ocvirk (1984); Mikuska (1985); Veljović (1985); Habeković et al. (1986); Delić (1989); Treer (1989); Habeković et al. (1990); Habeković and Popović (1991); Homen et al. (1991); Mrakovčić (1992); Delić (1993); Habeković (1993); Mrakovčić et al. (1995); Povž (1995); Zrnčić (1995); Mihaljević et al. (1996); Mrakovčić et al. (1996b); Habeković et al. (1997); Kerovec (1998); Leiner (1998a); Leiner (1998b); Majer (1998); Schneider (1998); Treer et al. (1998); Zanella et al. (2000); Jakovlić and Treer (2001); Mustafić (2001); Mrakovčić et al. (2002); Bakota et al. (2003); Mateš (2004); Jakirčević (2005); Mustafić (2005); Pažur (2005); Suić (2005); Mrakovčić et al. (2006); Čaleta (2007); Knežević (2007); Kottelat and Freyhof (2007); Prpa et al. (2007); Sallai and Mrakovčić (2007); Duplić (2008); Marguš (2008); Sallai and Kontos (2008); Sevcsik and Erös (2008); Treer et al. (2008a); Delić et al. (2009); Dumbović et al. (2009); Jelić et al. (2009); Kerestessy et al. (2009); Sofradžija (2009); Treer et al. (2009); Bučar et al. (2010); Buj (2010c); Bukvić et al. (2010); Jelić et al. (2010); Ozimec et al. (2010); Vardić Smrzlić (2010); Mrakovčić and Čaleta (2011); Jelić et al. (2012); Marčić et al. (2012); Glamuzina et al. (2013); Jelkić and Opačak (2013); Marr et al. (2013); Miočić-Stošić and Kovačević (2013); Delić et al. (2014a); Povž and Gregori (2014); Jelić et al. (2016); Piria et al. (2016a); Piria et al. (2016b); Jelić and Krivek (2017); Mustafić et al. (2017); Piria et al. (2017); Pofuk et al. (2017); Simonović et al. (2017b); Piria et al. (2018)

Remarks: non-native, invasive species

MICROPTERUS Lacepède, 1802

127. *Micropterus salmoides* (Lacepède 1802)

Names under which the taxon was mentioned: *Grystes salmoides* (Lacepède, 1802)

English name: Largemouth bass

Croatian name: pastrvski grgeč

Range in Croatia: Danube drainage - introduced to rivers, channels, ponds and backwaters; Adriatic Basin - Neretva River drainage

Literature: Anonymous (1907a); Hasenay (1933); Fijan (1950); Karaman (1952); Sabioncello (1967); Pogrmilović (1972); Tóth and Biro (1982); Bojčić (1987); Mrakovčić

(1992); Mrakovčić et al. (1996b); Majer (1998); Mustafić (2001); Mrakovčić et al. (2002); Pažur (2005); Mrakovčić et al. (2006); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Ozimec et al. (2010); Jelić et al. (2012); Povž and Gregori (2014); Piria et al. (2016b); Dulčić et al. (2017); Piria et al. (2018)

Remarks: non-native, invasive species

2.15.3. FAMILY: PERCIDAE Rafinesque, 1815

GYMNOCEPHALUS Bloch, 1793

128. *Gymnocephalus baloni* Holcík & Hensel, 1974

English name: Balon's ruffe

Croatian name: Balonov balavac

Range in Croatia: Danube drainage - Mura, Drava, Danube and Sava Rivers

Literature: Lelek (1987); Mrakovčić (1992); Mrakovčić et al. (1996b); Povž et al. (1997); Majer (1998); Mustafić (2001); Mustafić (2005); Sallai and Kontos (2005); Mrakovčić et al. (2006); Kottelat and Freyhof (2007); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Kerestessy et al. (2009); Popović (2010); Jelić et al. (2012)

129. *Gymnocephalus cernua* (Linnaeus, 1758)

Names under which the taxon was mentioned: *Acerina rosica*; *Acerina cernua* (Linnaeus, 1758); *Acerina vulgaris* Cuvier, 1829; *Gymnocephalus cernuus* (Linnaeus, 1758); *Perca cernua* Linnaeus, 1758

English name: Ruffe

Croatian name: obični balavac

Range in Croatia: Danube drainage - lower course of rivers; Adriatic Basin - introduced to the Lika River system

Literature: Heckel and Kner (1858); Jurinac (1880); Sebišanović (1880); Jurinac (1881); Sebišanović (1881); Mojsisovics (1883); Jurinac (1884); Mojsisovics (1884); Glowacki (1885); Anonymous (1886); Kesterčanek (1886); Mojsisovics (1887); Sebišanović (1889b); Sebišanović (1890); Brusina (1892); Brusina (1893); Dudan (1893); Kišpatić (1893); Glowacki (1896); Hirc (1897); Brusina (1898); Hirc (1899e); Langhoffer (1904); Anonymous (1906d); RHZZM (1908); Čurčić (1910); Vutskits (1918); Uzelac (1952a); Sabioncello (1953); Sabioncello (1967); Zobundžija (1968); Sabioncello et al. (1969); Vuković and Ivanović (1971); Klačterka (1979); Mikuska (1979); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Veljović (1982); Mikuska (1983a); Mikuska (1983b); Mikuska and Mamić (1984); Mikuska (1985); Veljović (1985); Habeković et al. (1986); Lelek (1987); Delić (1989); Habeković et al. (1990); Homen et al. (1991); Mrakovčić (1992); Delić (1993); Mrakovčić et al. (1996b); Leiner (1998a); Majer (1998); Treer et al. (1998); Zanella et al. (2000); Jakovlić and Treer (2001); Mustafić (2001);

Mrakovčić et al. (2002); Jugović (2004); Jakirčević (2005); Mustafić (2005); Pažur (2005); Čaleta (2007); Kottelat and Freyhof (2007); Prpa et al. (2007); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Treer et al. (2008a); Dumbović et al. (2009); Jelić et al. (2009); Kerestessy et al. (2009); Sofradžija (2009); Treer et al. (2009); Jelić et al. (2010); Ozimec et al. (2010); Jelić et al. (2012); Jelkić and Opačak (2013); Delić et al. (2014a); Piria et al. (2016a); Jelić et al. (2016b); Pofuk et al. (2017); Simonović et al. (2017b)

Remarks: non-native in the Adriatic Basin

130. *Gymnocephalus schraetser* (Linnaeus, 1758)

Names under which the taxon was mentioned: *Acerina schraetser* (Linnaeus, 1758)

English name: Striped ruffe

Croatian name: prugasti balavac

Range in Croatia: Danube drainage - Drava, Danube and Sava Rivers

Literature: Heckel and Kner (1858); Jurinac (1880); Sebišanović (1880); Sebišanović (1881); Jurinac (1884); Glowacki (1885); Seeley (1886); Mojsisovics (1887); Sebišanović (1890); Brusina (1893); Kišpatić (1893); Glowacki (1896); Hirc (1899e); Langhoffer (1904); Čurčić (1910); Vutskits (1918); Karaman (1923b); Maldini (1935a); Sabioncello (1953); Sabioncello (1967); Vuković and Ivanović (1971); Klačterka (1979); Mikuska (1979); Bojčić et al. (1982); Habeković et al. (1986); Lelek (1987); Delić (1989); Homen et al. (1991); Mrakovčić (1992); Delić (1993); Mrakovčić et al. (1996b); Majer (1998); Mustafić (2001); Jakirčević (2005); Mustafić (2005); Pažur (2005); Sallai and Kontos (2005); Mrakovčić et al. (2006); Čaleta (2007); Kottelat and Freyhof (2007); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Valić et al. (2008); Sofradžija (2009); Ozimec et al. (2010); Popović (2010); Jelić et al. (2012); Čaleta et al. (2015); Piria et al. (2016b)

Remarks: endemic to the Danube drainage

PERCA Linnaeus, 1758

131. *Perca fluviatilis* Linnaeus, 1758

English name: Perch

Croatian name: grgeč

Range in Croatia: Danube drainage - middle and lower course of the rivers and lakes; Adriatic Basin - introduced to the Lika River system, Gacka River, Prološko Blato and waters of the Istrian Peninsula

Literature: Bonaparte (1832-1841); Šloser (1870); Brusina (1878); Jurinac (1880); Sebišanović (1880); Sebišanović (1881); Jurinac (1884); Mojsisovics (1884); Mojsisovics (1887); Hefele (1889); Sebišanović (1889b); Sebišanović (1889c); Sebišanović (1890); Brusina (1892); Franke (1892); Anonymous (1893d); Brusina (1893); Dudan

(1893); Anonymous (1894c); Glowacki (1896); Hirc (1897); Hirc (1899e); Hirc (1902d); Ivakić (1905); RHZZM (1908); Čurčić (1910); Hirc (1911); Kulčar (1911); Vutskits (1918); Plančić (1920); Anonymous (1925); Anonymous (1931c); Trojanović (1934); Jedlička (1935); Samobor (1935); Maldini (1936b); Maldini (1938c); Sabioncello (1953); Kosorić (1955); Jagodić (1957); Sabioncello (1967); Zobundžija (1968); Sabioncello et al. (1969); Vuković and Ivanović (1971); Herga (1968); Klastar (1979); Mikuska (1979); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Veljović (1982); Mikuska (1983a); Mikuska (1983b); Delić (1984); Mikuska (1984); Mikuska and Mamić (1984); Vrenk (1984); Mikuska (1985); Tvrtković (1985); Veljović (1985); Habeković et al. (1986); Delić (1989); Habeković et al. (1990); Habeković and Popović (1991); Mrakovčić (1992); Delić (1993); Povž (1995); Zrnčić (1995); Mihaljević et al. (1996); Mrakovčić et al. (1996b); Habeković et al. (1997); Leiner (1998a); Majer (1998); Povž et al. (1998); Zanella et al. (2000); Jakovlić and Treer (2001); Mustafić (2001); Mrakovčić et al. (2002); Bakota et al. (2003); Delić et al. (2003a); Leiner (2003); Jugović (2004); Jakirčević (2005); Mustafić (2005); Pažur (2005); Suić (2005); Čaleta (2007); Ivelić et al. (2007); Knežević (2007); Kottelat and Freyhof (2007); Prpa et al. (2007); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Sevcsik and Erös (2008); Treer et al. (2008a); Dumbović et al. (2009); Jelić et al. (2009); Kerestessy et al. (2009); Piria et al. (2009); Sofradžija (2009); Treer et al. (2009); Bučar et al. (2010); Buj (2010c); Jelić et al. (2010); Jelkić et al. (2010); Ozimec et al. (2010); Vardić Smrzlić (2010); Labak (2011); Matulić et al. (2011); Jelić et al. (2012); Marčić et al. (2012); Jelkić and Opačak (2013); Marr et al. (2013); Delić et al. (2014a); Nedić et al. (2014a); Nedić et al. (2014b); Riđanović et al. (2014); Piria et al. (2016a); Jelić et al. (2016); Pofuk et al. (2017); Simonović et al. (2017b); Nedić et al. (2018)

Remarks: non-native in the Adriatic Basin

SANDER Oken, 1817

132. *Sander lucioperca* (Linnaeus, 1758)

Names under which the taxon was mentioned: *Lucioperca lucioperca* (Linnaeus, 1758); *Lucioperca sandra* Cuvier, 1828; *Stizostedion lucioperca* (Linnaeus, 1758)

English name: Pike-perch

Croatian name: smuđ

Range in Croatia: Danube drainage - middle and lower course of the rivers and lakes; Adriatic Basin - introduced to the Butoniga and Tribalj reservoirs and Neretva River drainage

Literature: Heckel and Kner (1858); Brusina (1878); Jurinac (1880); Sebišanović (1880); Sebišanović (1881); Mojsisovics (1883); Jurinac (1884); Glowacki (1885); Anonymous (1886); Kesterčanek (1886); Seeley (1886); Jurinac (1887); Šoštarić (1888); Hefele (1889); Sebišanović

(1890); Brusina (1892); Franke (1892); Anonymous (1893d); Anonymous (1893d); Brusina (1893); Dudan (1893); Kišpatić (1893); Anonymous (1894c); Anonymous (1894d); Anonymous (1894g); Flögel (1894); Anonymous (1896a); Glowacki (1896); Anonymous (1897b); Mojsisovics (1897); Hirc (1899e); Steuer (1899); Aue (1900); Horvat (1900a); Horvat (1901); Medić (1901b); Langhoffer (1904); Anonymous (1905a); Anonymous (1905b); Ivakić (1905); Anonymous (1906b); Anonymous (1906d); Anonymous (1906e); Anonymous (1907a); Anonymous (1907b); Anonymous (1909b); Čurčić (1910); Vutskits (1918); Plančić (1920); Plančić (1923a); Rössler (1928); Anonymous (1931c); Fink (1932a); Thaller (1932); Tadić (1933); Trojanović (1934); Bek (1935); Plančić (1935a); Samobor (1935); Anonymous (1936a); Maldini (1936a); Maldini (1937); Maldini (1938c); Anonymous (1946a); Anonymous (1947c); Hafner-Lahorski (1948b); Anonymous (1949); Fijan (1950); Hafner-Lahorski (1950a); Plančić (1952e); Sabioncello (1953); Marjanović (1954); Anonymous (1955b); Plančić (1955); Jagodić (1957); Salihćehajić (1965); Sabioncello (1967); Herga (1968); Zobundžija (1968); Anonymous (1969b); Tóth and Mikuska (1971); Vuković and Ivanović (1971); Munjko (1972); Pogrmilović (1972); Fijan (1976b); Klastar (1979); Mikuska (1979); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Veljović (1982); Mikuska (1983a); Mikuska (1983b); Delić (1984); Mikuska (1984); Mikuska (1985); Tvrtković (1985); Veljović (1985); Habeković et al. (1986); Lelek (1987); Turk et al. (1987); Delić (1989); Mišetić et al. (1989); Treer (1989); Homen et al. (1991); Popović (1991); Martinović et al. (1992); Mrakovčić (1992); Delić (1993); Pažur (1993); Kolar-Dimitrijević (1994); Crivelli (1995); Zrnčić (1995); Krpo-Četković and Stamenković (1996); Mihaljević et al. (1996); Mrakovčić et al. (1996b); Leiner (1998a); Majer (1998); Holčík and Delić (2000); Zanella et al. (2000); Mustafić (2001); Mrakovčić et al. (2002); Delić et al. (2003a); Leiner (2003); Jugović (2004); Piria et al. (2004); Jakirčević (2005); Mustafić (2005); Pažur (2005); Mrakovčić et al. (2006); Čaleta (2007); Ivelić et al. (2007); Kottelat and Freyhof (2007); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Sevcsik and Erös (2008); Suić et al. (2008); Jelić et al. (2009); Kerestessy et al. (2009); Sofradžija (2009); Jelić et al. (2010); Ozimec et al. (2010); Matulić et al. (2011); Jelić et al. (2012); Glamuzina et al. (2013); Jelkić and Opačak (2013); Marr et al. (2013); Zrnčić et al. (2013); Delić et al. (2014a); Nedić et al. (2014a); Nedić et al. (2014b); Riđanović et al. (2014); Pavličević et al. (2016); Piria et al. (2016b); Mustafić et al. (2017); Pofuk et al. (2017); Nedić et al. (2018); Piria et al. (2018)

Remarks: non-native in the Adriatic Basin

133. *Sander volgensis* (Gmelin, 1789)

Names under which the taxon was mentioned: *Lucioperca volgensis* (Gmelin, 1789); *Stizostedion volgensis* (Gmelin, 1789)

English name: Volga pikeperch

Croatian name: smuđ kamenjak

Range in Croatia: Danube drainage - Drava, Danube and Sava Rivers

Literature: Seeley (1886); Mojsisovics (1887); Hefele (1889); Brusina (1893); Kišpatić (1893); Glowacki (1896); Medić (1896); Hirc (1897); Medić (1901b); RHZZM (1908); Čurčić (1910); Vutskits (1918); Maldini (1936a); Anonymous (1947c); Sabioncello (1953); Pešić (1955); Sabioncello (1967); Vuković and Ivanović (1971); Klačterka (1979); Mikuska (1979); Bojčić et al. (1982); Mikuska (1983a); Mikuska (1983b); Vrenk (1984); Lelek (1987); Homen et al. (1991); Harka (1992); Jakirčević (2005); Mustafić (2005); Pažur (2005); Mrakovčić et al. (2006); Kottelat and Freyhof (2007); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Sofradžija (2009); Ozimec et al. (2010); Jelić et al. (2012)

ZINGEL Cloquet, 1817

134. *Zingel streber* (Siebold, 1863)

Names under which the taxon was mentioned: *Aspro streber* Siebold, 1863; *Aspro vulgaris* Cuvier, 1828

English name: Streber

Croatian name: mali vretenac

Range in Croatia: Danube drainage - fast flowing parts of rivers

Literature: Heckel and Kner (1858); Jurinac (1880); Sebišanović (1880); Sebišanović (1881); Jurinac (1884); Glowacki (1885); Anonymous (1886); Kesterčanek (1886); Seeley (1886); Hefele (1889); Sebišanović (1890); Brusina (1893); Kišpatić (1893); Glowacki (1896); Hirc (1897); Mojsisovics (1897); Hirc (1899e); Medić (1901b); Langhoffer (1904); Čurčić (1910); Vutskits (1918); Maldini (1935b); Sabioncello (1953); Sabioncello (1967); Vuković and Ivanović (1971); Klačterka (1979); Mikuska (1979); Bojčić et al. (1982); Veljović (1982); Mikuska (1983b); Popović and Fašaić (1986); Lelek (1987); Mrakovčić (1992); Mrakovčić et al. (1996b); Habeković et al. (1997); Majer (1998); Povž et al. (1998); Mustafić (2001); Jakirčević (2005); Mustafić (2005); Pažur (2005); Sallai and Kontos (2005); Mrakovčić et al. (2006); Kottelat and Freyhof (2007); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Dumbović et al. (2009); Sofradžija (2009); Ozimec et al. (2010); Popović (2010); Ištók (2011); Jelić et al. (2012); Delić et al. (2014a); Piria et al. (2016a)

135. *Zingel zingel* (Linnaeus, 1766)

Names under which the taxon was mentioned: *Aspro zingel* (Linnaeus, 1758)

English name: Zingel

Croatian name: veliki vretenac

Range in Croatia: Danube drainage - middle and lower

course of the large rivers

Literature: Bonaparte (1846); Heckel and Kner (1858); Jurinac (1880); Sebišanović (1881); Jurinac (1884); Glowacki (1885); Seeley (1886); Sebišanović (1890); Brusina (1892); Brusina (1893); Dudan (1893); Kišpatić (1893); Glowacki (1896); Hirc (1897); Mojsisovics (1897); Hirc (1899e); Medić (1901b); RHZZM (1908); Čurčić (1910); Vutskits (1918); Anonymous (1931c); Maldini (1935b); Sabioncello (1953); Sabioncello (1967); Vuković and Ivanović (1971); Klačterka (1979); Mikuska (1979); Bojčić et al. (1982); Veljović (1982); Mikuska (1983a); Mikuska (1983b); Lelek (1987); Harka (1992); Mrakovčić et al. (1996b); Majer (1998); Mustafić (2001); Mustafić (2005); Pažur (2005); Sallai and Kontos (2005); Mrakovčić et al. (2006); Čaleta (2007); Kottelat and Freyhof (2007); Sallai and Mrakovčić (2007); Sallai and Kontos (2008); Sevcsik and Erös (2008); Kerestessy et al. (2009); Ozimec et al. (2010); Jelić et al. (2012); Piria et al. (2016a); Nedić et al. (2018)

2.15.4. FAMILY: SPARIDAE Rafinesque, 1818

SPARUS Linnaeus, 1758

136. *Sparus aurata* Linnaeus, 1758

English name: Silver seabream

Croatian name: komarča, orada

Range in Croatia: Adriatic Basin - river mouths, lagoons and lakes connected to the sea along the coast

Literature: Lorini (1921); Šoljan (1931); Morović (1947); Morović (1948); Basioli (1952); Kovačević (1952); Plančić (1952c); Taler (1953a); Basioli (1957a); Basioli (1958a); Basioli (1960); Morović (1961); Morović (1962); Marčić Brusina (1963); Morović (1963); Vuković (1963); Sabioncello et al. (1964); Habeković (1967); Vuković and Ivanović (1971); Morović (1976); Bojčić et al. (1982); Treer et al. (1989); Jardas (1996); Leiner (1998b); Schneider (1998); Sofradžija (2009); Dulčić and Glamuzina (2010); Lipej and Dulčić (2010); Tutman et al. (2010); Glamuzina et al. (2013)

Remarks: euryhaline species that occasionally enters freshwater

2.15.5. FAMILY: GASTEROSTEIDAE Bonaparte, 1831

GASTEROSTEUS Linnaeus, 1758

137. *Gasterosteus aculeatus* Linnaeus, 1758

Names under which the taxon was mentioned: *Gasterosteus brachycentrus* Cuvier, 1829; *Gasterosteus gymnurus* Cuvier, 1829

English name: Three-spined stickleback

Croatian name: koljuška

Range in Croatia: Danube drainage - introduced to Mura

and Drava Rivers; Adriatic Basin - Mirna, Krka and Neretva River drainages, Baćinska Lakes, Vransko Lake near Biograd and Bokanjačko Blato Lake

Literature: Carrara (1846); Canestrini (1865); Canestrini (1866); Brusina (1878); Giglioli (1880); Seeley (1886); KaturiĆ (1887); Mojsisovics (1887); Kolombatović (1888); KaturiĆ (1896c); KaturiĆ (1896d); KaturiĆ 1907); Karaman (1928); Gridelli (1936); Taler (1953a); Pešić (1961); Vuković (1963); Vuković and Prolić (1966); Sabioncello (1967); Vuković and Kosorić (1967); Vuković and Ivanović (1971); Herga (1974); Morović (1976); Sofradžija and Hadžiselimović (1981); Bojčić et al. (1982); Leiner (1985); Lelek (1987); Fašaić et al. (1990); Mrakovčić and Mišetić (1990a); Leiner and Povž (1993); Mrakovčić et al. (1995); Jardas (1996); Maitland and Crivelli (1996); Holčik and Mrakovčić (1997); Leiner (1998b); Tvrtković (1998); Mrakovčić et al. (2000a); Mikavica et al. (2001); Paepke (2002); Mrakovčić et al. (2006); Kottelat and Freyhof (2007); Cano et al. (2008); Mäkinen and Merilä (2008); Muhamedagić et al. (2008); Sevcsik and Erös (2008); Zanella (2009); Zanella et al. (2009a); Lipej and Dulčić (2010); Csipkés et al. (2012); DeFaveri et al. (2012); Glamuzina et al. (2013); Landeka et al. (2015); Lisjak et al. (2015); Zanella et al. (2015); Piria et al. (2016b); Mustafić et al. (2017); Piria et al. (2018)

Remarks: non-native in Danube River drainage; though some report the existence of two species in Croatia, *G. aculeatus* and *G. gymnurus*, recent genetic analyses have indicated that this is the species *G. aculeatus*

ACKNOWLEDGEMENTS

Authors are grateful to Linda Zanella for proofreading of the manuscript and two anonymous referees for their comments that improved the overall quality of the manuscript.

PREGLED POSTOJEĆIH HRVATSKIH SLATKOVODNIH RIBA I PAKLARA

Popis i rasprostranjenost s komentarima

Sažetak

Prvi je put izrađen popis hrvatskih slatkovodnih riba. Temelji se na 1360 povijesnih i novijih literaturnih podataka. Na temelju pregleda literature, u Hrvatskoj je, do danas, zabilježeno 137 vrsta riba iz 30 porodica i 75 rodova. Popis je organiziran sistematski i u njemu se navode podaci o rasprostranjenosti slatkovodne ihtiofaune te jesu li vrste endemične, unesene ili prenesene (translocirane).

Ključne riječi: dunavski slijev, jadranski slijev, ednemičnost, unosi, prijenosi (translokacije).

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